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Organizational Conditions that Promote and Impede Research Engagement: The Principal's Perspective

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Abstract

The researcher explored perceptions of the research-practice gap in education, the process through which central actors make decisions related to teacher retention and development, and the organizational conditions that promote and impede research-engagement in this qualitative study. The researcher limited the study to the role of the campus principal and used purposive sampling to select participants from 3 diverse districts in the state of Texas. Because there may be discrepancies between leaders' perceptions and behaviors, the researcher conducted interview sessions with principals and principal supervisors and conducted observation sessions in principals' natural work environments. The study results showed that good intentions, a willing disposition, access to research, and an open stance toward research evidence do little to narrow the divide between research and practice. The researcher concluded the distance between research and practice in education is not due not to attitudinal factors, but organizational structure. To facilitate research-engagement, the researcher recommended that organizational leaders (a) reimagine how and where principals work, (b) situate principals around transformational work, (c) build principals' capacity to make better decisions at work, and (d) stabilize and reinforce the impact of innovative work.

Keywords: decision-making, organizational context, research engagement, systems approach, teacher development, teacher retention

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Chapter 1: Introduction

Widespread, consistent improvement has been difficult to attain in education (Bryk, Gomez, Grunow, & Lemahieu, 2015). The problem is not an absence of research evidence but that the evidence has proven powerless (Reeves, 2009). Research published across the social sciences and in the field of education provide numerous examples of how educational practices could be improved, but the research is not being used to inform improvement efforts (Levin, 2013), and improvement is not happening "at the speed and scope of what is possible" (Bryk et al., 2015, p. ii). Translating research into useful business practice is not only essential (Fibuch & Robertson, 2017) but responsible (Jones, 2018); doing so ensures practices linked to favorable outcomes are introduced into the practice setting and benefit the widest audience (Godfrey, 2016; Jones, 2018).

Unfortunately, in school leadership and management, leaders often ignore research evidence and base decisions on personal experiences, intuition, insular knowledge, and memory (Jones, 2018; Pfeffer & Sutton, 2000; Pfeffer & Sutton, 2006). Knowledge of what could be done infrequently results in action or behavior consistent with that knowledge (Pfeffer & Sutton, 2000). In this study I explored the gap between research evidence and leadership practice, with specific aims to understand how campus principals perceive the relationship between research and practice, to understand the process through which principals make leadership decisions, and to identify organizational factors that impede and facilitate research engagement—defined in this study as one's capacity and willingness to employ evidence whenever possible (Greany & Brown, 2017). Because campus principals often serve as central decision-makers regarding the adoption of policies and programs at the campus level (Levin, 2013), and because principals serve as one of the highest leverage points for improving the organizational contexts linked to

retention and student achievement (Boyd et al., 2011; Johnson, Kraft, & Papay, 2011; Kraft, Marinell, & Yee, 2016; Podolsky, Kini, Bishop, & Darling-Hammond, 2016), I limited this study's exploration to the role of the principal.

Background

Teacher quality matters (Chetty, Friedman, & Rockoff, 2014; Goldhaber, 2016; the New Teacher Project [TNTP], 2012). Students assigned to effective teachers are more likely to graduate, attend college, earn higher wages, and achieve additional learning gains (Chetty et al., 2014; Hanushek & Rivkin, 2010). However, a good teacher may be hard to find. Decades of researchers—from Goodlad (1984) to Pianta, Belsky, Houts, and Morrison (2007), to Antonetti and Garver (2015) and TNTP (2018)—repeatedly described America's classrooms as uninspiring spaces, devoid of critical thinking, authentic engagement, and problem solving.

Although researchers identified the critical components of effective instruction (Fisher & Frey, 2014; Hattie, 2017; Marzano, 2016; Schmoker, 2018) and the most appropriate ways to develop teacher expertise (Bambrick-Santoyo, 2018; Darling-Hammond, Hyler, & Gardner, 2017; Hanover Research, 2017; Knight, 2014; McGaghie, Barsuk, Cohen, Kristopaitis, & Wayne, 2015), observations conducted over the last thirty years showed that students receive few opportunities to speculate, improve analytical skills, extend critical thinking, and interact with peers (Antonetti & Garver, 2015; Goodlad, 1984; Pianta et al., 2007). Instead, students spend the majority of the school day listening to a teacher (Antonetti & Garver, 2015; Pianta et al., 2007) who is "marching in place" (TNTP, 2015, p. 13)—who has failed to demonstrate growth and improvement from one year to the next (TNTP, 2015) and continues to teach as he or she was taught as a student (Jones & Barrett, 2016).

While many students are meeting the demands of classroom assignments, most students are not prepared for the rigor of university-level coursework (TNTP, 2018). During the school year, students spend roughly 180 hours in each core subject (TNTP, 2018). The New Teacher Project (2018) estimated that of those 180 hours, students spent 47 hours completing grade-appropriate assignments and 133 hours completing assignments below grade level. Of the 180 classroom hours in each core subject, students spent 151 hours on lessons supported by ineffective instruction and 29 hours on lessons supported by effective instruction (TNTP, 2018). Not only does the content presented to students lack rigor, the instructional strategies employed by teachers actually discourage critical thinking (TNTP, 2018). Why has the abundance of published research on pedagogy and training not resulted in improved teacher quality and improved instructional practices?

Teacher retention matters (Carver-Thomas & Darling-Hammond, 2017). Teacher turnover negatively affects student learning (Carver-Thomas & Darling-Hammond, 2017), disrupts the campus' mission and vision for school improvement (Bryk et al., 2015; Holme & Rangel, 2012; Simon & Johnson, 2015), and places an unnecessary financial strain on districts who are tasked with recruiting and training, not only the existing teacher, but the teacher's replacement (Brill & McCartney, 2008; Darling-Hammond, 2010; U.S. Department of Education, 2016). The U.S. Department of Education (2016) estimated that teacher attrition costs the nation more than 7 billion dollars annually.

To increase employee commitment and engender strong, positive emotions about the workplace, researchers stressed the importance of leadership practices such as

- feedback, communication, and recognition (Armitage & Parrey, 2013; Brill & McCartney, 2008; Carver-Thomas & Darling-Hammond, 2017; Gallup, 2016; Karanges,

Johnston, Beatson, & Lings, 2015; Kraft & Papay, 2014; Men, 2015; Menguc, Auh, Fisher, & Haddad, 2013; Mone, Eisinger, Guggenheim, Price, & Stine, 2011; TNTP, 2012);

- supervisor support (Bailey, Madden, Alfes, & Fletcher, 2017; Brill & McCartney, 2008; Kraft & Papay, 2014; Ladd, 2011; Macey & Schneider, 2008; Men, 2015; Podolsky et al., 2016; TNTP, 2012);
- clarity, direction, and purpose (Armitage & Parrey, 2013; Carver-Thomas & Darling-Hammond, 2017; Ladd, 2011; Macey & Schneider, 2008);
- collaboration and shared decision-making (Armitage & Parrey, 2013; Brill & McCartney, 2008; Kraft et al., 2016; Kraft & Papay, 2014; Podolsky et al., 2016); and
- goal-setting, growth, and development (Gallup, 2016; Maylett & Warner, 2014; Mone et al., 2011).

While a significant body of research exists, the guidance provided in the research has done little to improve teacher retention (Podolsky et al., 2016; TNTP, 2012; U.S. Department of Education, 2016). Nearly half of all teachers leave the profession within their first five years of teaching (U.S. Department of Education, 2016), and the teaching workforce loses a continuous stream of educators each year for reasons other than retirement (Podolsky et al., 2016). Six to 17% of the very best teachers—referred as the "irreplaceables"—leave their districts at the end of each school year, and when these teachers leave, it can take "eleven hires to identify a teacher of comparable quality" (TNTP, 2012, p. 2).

The collective consequences of poor instruction and teacher turnover are significant (Simon & Johnson, 2015). Regardless of their zip code, students become academically endangered when assigned to an ineffective teacher three years in a row (Wilson, 2011).

Moreover, low socioeconomic and minority students—who are frequently labeled at risk of not graduating—are much more likely to attend schools with higher concentrations of noncertified, inexperienced teachers (Saultz, White, McEachin, Fusarelli, & Fusarelli, 2017; U.S. Department of Education, 2016), and teachers who received unsatisfactory performance evaluations (Saultz et al., 2017). If the campus principal serves as one of the highest leverage points for improving the organizational contexts linked to teacher retention and student achievement (Boyd et al., 2011; Johnson et al., 2011; Kraft et al., 2016; Podolsky et al., 2016), why has the principal been unable to translate available knowledge and interventions into a coherent pattern of action that results in improved outcomes?

Statement of the Problem

The gap between evidence and practice is wide and persistent (Jones, 2018; Pfeffer & Sutton, 2000). The effective use of research has the potential to bring about improvements in student outcomes (Hattie, 2017; Marzano, 2016) and teacher retention (Carver-Thomas & Darling-Hammond, 2017), but these recommendations have been slow to gain acceptance and have not resulted in widespread application (Antonetti & Garver, 2015; Goodlad, 1984; Pianta et al., 2007; TNTP, 2012; TNTP, 2015). Improvement is "not happening at the speed and scope of what is possible" (Bryk et al., 2015, p. ii).

There is consensus amongst researchers about what teachers need to know and be able to do to improve student outcomes (Fisher & Frey, 2014; Hattie, 2017; Marzano, 2016; Schmoker, 2018). Likewise, there is consensus about the most appropriate ways to develop expert performance (Bambrick-Santoyo, 2018; Darling-Hammond et al., 2017; Hanover Research, 2017; Knight, 2014; McGaghie et al., 2015) and engender employee commitment and satisfaction in the workplace (Armitage & Parrey, 2013; Brill & McCartney, 2008; Carver-

Thomas and Darling-Hammond, 2017; Gallup, 2016; Karanges et al., 2015; Kraft & Papay, 2014; Men, 2015; Menguc et al., 2013; Mone et al., 2011; TNTP, 2012). The publication of, and principals' access to, this research has not resulted in measurable improvements in the areas of teacher quality and teacher retention.

Purpose of the Study

The purpose of this study was to determine ways in which organizations—such as public school districts—could compel central actors—such as campus principals—to use available research to inform leadership decisions and introduce practices linked to favorable outcomes in the practice setting. In doing so, I explored how principals perceive the relationship between research and practice, examined decision-making processes used by principals responsible for the diffusion of research-based interventions at the campus level, and identified organizational conditions that promote and impede research engagement.

Research Questions

The following research questions were used to guide this study:

RQ1: How do principals and principal appraisers perceive the relationship between research and practice?

RQ2: How do principals gather, interpret, and use research to inform decision-making and action taking?

RQ3: How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?

RQ4: What organizational conditions promote and impede research engagement?

Significance

There are essentially two ways to view discrepancies in human behavior and explain why people who value continuous improvement may act in ways that prevent improvement from actually occurring—the old view and the new view (Dekker, 2014). The old view, also referred to as the "bad apple theory," suggests human error is the cause of most issues; to explain failure, one must look for violations, incompetence, and mistakes, and identify an employee's bad judgment (Dekker, 2014, p. 2). The new view suggests human error is a symptom of a larger problem within the system and occurs when employees attempt to reconcile competing goals simultaneously (Dekker, 2014). The old view is concerned with judgement and assigning blame, whereas the new view is concerned with understanding how employees make sense of their environment and how the environment potentially influences decision-making (Dekker, 2014). According to Ross and Nisbett (2011), people tend to overemphasize disposition and personality when seeking to understand behavioral choices and underemphasize situational context such as fundamental attribution error.

In 1947, psychologists Paul Fitts and Edward Jones were asked to advise the U.S. military on how to select less error-prone fighter pilots (Dekker, 2014). The team discovered that it was the plane's design, not the pilots, in need of remediation (Dekker, 2014). Human error was the symptom of trouble deep inside the system and connected to the features of the pilots' tools, tasks, and operating environment (Dekker, 2014). This new view of human error was credited with saving many lives during World War II and the Korean War (Holden, 2009).

There is a tendency in education—when confronted with unsatisfactory performance and unsatisfactory results—to assign blame to the people within the system and dismiss the multifactorial, nonlinear, and complex nature of causation (Bryk et al., 2015; Holden, 2009),

even though most issues rarely have one cause (Dekker, 2014), and problematic employees only account for a small percentage of workforce issues (Bryk et al., 2015). Attributing the lack of progress to a lack of human motivation and failing to differentiate between systems problems and people problems have resulted in the over prioritization of behavioral control, policy making, and large-scale reform (Bryk et al., 2015)—the very conditions educators cited as reasons for leaving the profession (Carver-Thomas & Darling-Hammond, 2017). It is plausible that the predominant failure lies not with the people doing the work, but in how the organization structures and carries out the work (Bryk et al., 2015; Dekker, 2014; Kirkwood, 1998). This study provides insight as to why principals' access to quality research has not resulted in marked improvement and ways in which the system could be reformed to ensure greater efficacy at scale.

The exponential rate of change will continue to demand employees who can access, process, synthesize, and generate new information to solve complex problems and innovate within the organization (Carleton, 2011; Frick & Drucker, 2011). As such, the knowledge worker—who works primarily with information or who develops and uses information in the workplace (Drucker, 1999)—will remain one of the organization's most valuable resources (Carleton, 2011; Frick & Drucker, 2011). Knowledge management, however, is as much of an intellectual endeavor as it is a pragmatic endeavor (Carleton, 2011). How a knowledge worker is managed and the conditions in which a knowledge worker operates will either encourage or thwart innovation, problem solving, and initiative (Carleton, 2011).

To harness the intellectual capacity of a knowledge worker—such as that of the campus principal—and solve education's most wicked problems, organizations must design a system that equips principals with the skills and resources necessary to access, interpret, and implement research recommendations. If a system produces exactly what a system was designed to produce

(Stroh, 2015), it is possible that something about the organizational system in which principals currently operate thwarts research engagement. Principals do not come to work to do a bad job; "what [principals] do makes sense to them at the time" (Dekker, 2014, p. 6).

Better insight into how principals experience the relationship between research and practice would allow organizational leaders to proceed from a more informed perspective and consider ways in which principals' tools, tasks, and operating environment could be refined to ensure principals are able to make use of the best available research. A better understanding would also serve to dispel the bad apple theory (Dekker, 2014) and restore a sense of promise and potential to a marginalized profession (Ravitch, 2011).

Definition of Key Terms

Decision. A decision takes place when an individual or other decision-making unit engages in activities that lead to a choice to adopt or reject an innovation or idea (Rogers, 2003)

Decision-making competency. Decision-making competency is the ability to make decisions and successfully engage and complete realistic tasks (Thalheimer, 2018b).

Implementation. Implementation occurs when an individual or other decision-making unit puts a new idea into use (Rogers, 2003).

Innovation. An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003).

Knowing-doing gap. The knowing-doing gap refers to the challenge of turning knowledge about how to enhance organizational performance into actions consistent with that knowledge (Pfeffer & Sutton, 2000).

Knowledge worker. A knowledge worker is one who works primarily with information or who develops and uses information in the workplace (Drucker, 1999).

Leadership. Leadership is a set of actions and behaviors leaders use to improve the organization. More specifically, leadership is about establishing agreed-upon and worthwhile directions for the organization and doing whatever it takes to prod and support people to move in those directions (Louis, Leithwood, Wahlstrom, & Anderson, 2010, pp. 9-10).

Organizational context. An organization's context includes characteristics of the organization, such as its structure, culture, leadership, identity, memory, goals, incentives, and reward structures (Argote & Miron-Spektor, 2011).

Research. Research refers to the structures, processes, products, and persons that are part of the systematic development of knowledge (Broekkamp & van Hout-Wolters, 2007, p. 205).

Research engagement. Research engagement refers to the intention, willingness, and capacity to regularly employ evidence wherever and whenever possible (Greany & Brown, 2017, p. 4).

System. System refers to an interdependent group of items forming a unified pattern (Kirkwood, 1998).

Systems approach. Systems approach refers to the viewpoint that a system's structure is often the underlying source of problems and difficulties. Problems will continue to resurface or be replaced by more difficult problems unless the system's structural deficiencies are corrected (Kirkwood, 1998).

Teacher attrition. Teacher attrition refers to when a teacher leaves the teaching profession to pursue another career, retire, or due to other reasons (Raue & Gray, 2015).

Teacher quality. Teacher quality refers to a teacher's ability to create an optimal learning environment, monitor learning and provide feedback, and influence student outcomes for knowledge building and critical thinking (Hattie, 2017).

Teacher retention. Retention is continued employment in the teaching profession (Texas Education Agency, 2017).

Summary

The purpose of this study was to determine ways in which organizations—such as public school districts—could compel central actors—such as campus principals—to use available research to inform leadership decisions and introduce practices linked to favorable outcomes in the practice setting. Chapter 1 provided an overview of the study, including background information, research questions, and definitions of key terms. Chapter 2 provides synthesis and analysis of applicable literature and case studies.

Chapter 2: Literature Review

There has been growing interest in the field of education and across the social sciences in the way research could be used to inform practice (Bryk et al., 2015; Grant, 2011; Levin, 2013; Neal, Neal, Lawlor, & Mills, 2015; Vosburgh, 2017), and continual disappointment in the way research has actually been used to shape organizational policies and practice (Levin, 2013; Rousseau & McCarthy, 2007). In studies on research use in organizations, researchers suggested the significant body of research evidence relevant to effective organizational practice has been grossly underused (Pfeffer & Sutton, 2006; Rousseau & McCarthy, 2007). While effective practices are often reasonably well known, the diffusion of effective practices into the practice setting has proven difficult (Jones, 2018; Pfeffer & Sutton, 2000).

The gap between knowledge and practice—referred to in the literature as the knowing-doing gap and the research-to-practice gap—has been attributed to inadequacies in the research, communication methods used by the research community, an information deficit, and a general lack of interest and resistance on behalf of the practitioner (Levin, 2013). While much is known about the attitudinal and communication barriers preventing research implementation (Levin, 2013), less is known about the organizational conditions that support practitioners' use of the best available research (Bansal, Bertels, Ewart, MacConnachie, & O'Brien, 2011; Honig, Venkateswaran, & McNeil, 2017). These organizational conditions, however, are significant (Senge, 1990).

When problems arise, and when the organization fails to achieve its objectives, it can be tempting to blame the people within the system (Senge, 1990). However, more often than not, the lack of progress is the fault of the system rather than external forces or individuals' mistakes

(Senge, 1990). Subjected to the same structures, dissimilar people yield similar results (Senge, 1990).

The central objective of this literature review is to push beyond the "bad apple" view of human behavior (Dekker, 2014, p. 1)—beyond recommendations to fix the practitioner (Hirschkorn & Geelan, 2008)—to explore instead what is known about the organizational conditions that impede and promote research engagement in the workplace. But first, it is important to understand the process through which ideas are introduced and adopted.

Diffusion Theory

Diffusion is the process through which an innovation is "communicated through certain channels over time among members of a social system" (Rogers, 2003, p. 5). The term innovation refers to an idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003). According to Rogers (2003), it matters little in terms of human behavior whether the idea is objectively new as measured by the lapse of time since its first use or discovery.

The concept of diffusion traces back to Europe when sociology and anthropology were emerging as new social sciences (Rogers, 2003). Gabriel Tarde—a French lawyer and judge—recorded the first scholarly observations about the process of diffusion (Rogers, 2003). Tarde's quest—to understand why "given one hundred different innovations conceived at the same time, ten will spread abroad while ninety will be forgotten" (Parsons & Tarde, 1903, p. 140)—set the stage for diffusion research (Rogers, 2003).

Diffusion research is a form of communication research that began in the 1940s and 1950s when groups of scientists from diverse fields sought to understand how, why, and at what rate certain innovations spread (Rogers, 2003). Researchers in fields such as agriculture and

education investigated the spread of innovations to farmers and school personnel (Rogers, 2003). While conducted in a variety of settings, the researchers revealed similar findings in the results of their studies (Rogers, 2003). According to Rogers (2003), "an individual's decision to adopt an innovation is not an instantaneous act" (p. 169). It is a "process that occurs over time and consists of a series of different actions" (Rogers, 2003, p. 169).

The Innovation-Decision Process

Rogers (2003) developed the innovation-decision process to explain the progression through which

> an individual (or other decision-making unit) passes from gaining initial knowledge of an innovation, to forming an attitude toward the innovation, to making a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision. (p. 168)

According to Rogers (2003), there are five stages in innovation-decision process:

1. The knowledge stage occurs when an individual or other decision-making unit is exposed to an innovation's existence and gains an understanding of how it functions.
2. The persuasion stage occurs when an individual or other decision-making unit forms a favorable or an unfavorable attitude towards the innovation.
3. The decision stage occurs when an individual or other decision-making unit expresses intentions to adopt or reject the innovation.
4. The implementation stage occurs when an individual or other decision-making unit puts a new idea into practice.
5. The confirmation stage takes place when an individual seeks reinforcement of an innovation-decision already made, but the individuals may reverse this previous decision if exposed to conflicting messages about the innovation.

Scope of the Literature Review

For the purposes of this literature review, Rogers' (2003) innovation-decision process was used as a framework to understand the series of choices an individual such as a campus principal engages in when moving from the process of acquiring and thinking about knowledge to the process of implementing knowledge (i.e., from decision-making to action taking). Rogers' (2003) theory was then compared to a sampling of literature and case studies to determine what an organization can do to support central actors'—such as school principals who are responsible for the day-to-day operations of a smaller unit—use of research as they move through the five stages of the innovation-decision process shown in Figure 1.

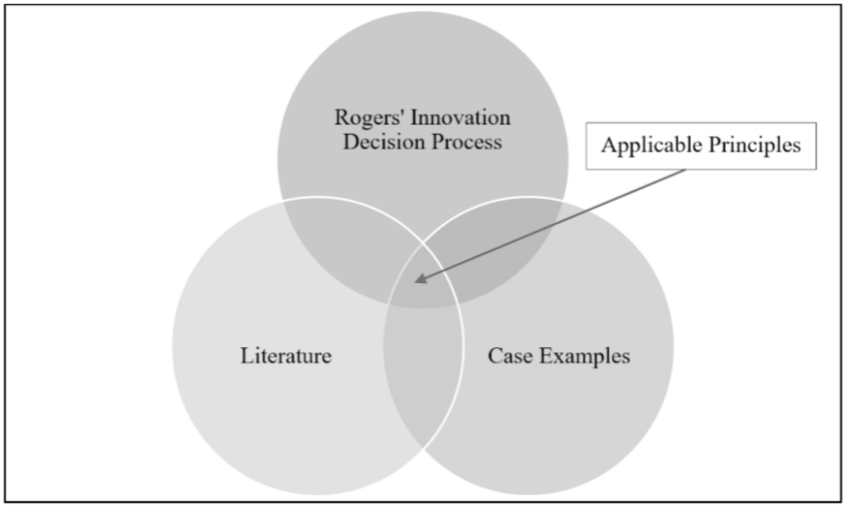

Figure 1. A Venn diagram of sources utilized for the review in effort to extract a set of applicable principles.

Search terms such as the *knowing-doing gap* and *research-to-practice gap, improvement science*, *implementation science*, *motivation in the workplace*, *continuous improvement*, and *organizational learning* were used to identify relevant articles, books, and publications for the review of literature. Case studies from organizations such as Community-Led Total Sanitation,

Weight Watchers, 7-Eleven, Army, Bridgewater, and IBM were also selected in an attempt to identify strategies used by successful organizations to promote evidence-informed practices.

Stages 1 through 3: Impression Formation to Decision-Making

Stages 1 through 3 of the innovation-decision process represent a mental exercise—a time in which the individual or unit engages in decision-making (Rogers, 2003). The innovation-decision process begins when the individual is exposed to an innovation and gains a general understanding of how the innovation works (Rogers, 2003). Stage 1—the knowledge stage—is characterized as a time in which the individual accesses new information or a solution, comprehends associated messages, and deepens knowledge for the effective adoption of the innovation (Rogers, 2003). According to Rogers (2003), individuals seek answers to three questions during the knowledge stage:

1. What is it?
2. How does it work?
3. Why does it work?

Individuals rarely voluntarily expose themselves to new ideas unless they first experience a sense of need or become aware of a performance gap (Rogers, 2003). Need refers to the state of dissatisfaction that occurs when an individual's aspirations outweigh the individual's present reality (Rogers, 2003). A performance gap is a discrepancy between an organization's aspirations and actual performance (Rogers, 2003). Once exposed, the individual is motivated to reduce uncertainty by weighing the advantages and disadvantages of the innovation (Rogers, 2003). If the individual perceives the new idea as irrelevant, if the individual does not receive sufficient knowledge about the new idea, or if the idea is perceived as too complex, the new idea will not

progress beyond the knowledge stage (Rogers, 2003). Individuals must be convinced of and internalize the innovation's potential benefits (Rogers, 2003).

Once knowledge of the innovation has been obtained and *what*, *how*, and *why* questions have been answered, the individual proceeds to the second stage—the persuasion stage (Rogers, 2003). The persuasion stage is characterized as a period in which the individual shifts from thinking to feeling (Rogers, 2003). In response to information obtained in stage 1, the individual forms a favorable or unfavorable attitude toward the innovation. The individual develops attitudes and feelings based on the innovation's relative advantage, compatibility, and complexity (Rogers, 2003). Relative advantage refers to the degree to which an innovation is "perceived as better than the idea it supersedes" (Rogers, 2003, p. 15). Compatibility refers to the degree to which an innovation is "perceived as being consistent with existing values, past experiences, and needs of potential adopters," and complexity refers to the degree to which an innovation is "perceived as difficult to understand and use" (Rogers, 2003, p. 15).

Innovations that do not meet relative advantage standards, require the adopter to develop new skills and knowledge, or are incompatible with the values and norms of the social system are less likely to be adopted (Rogers, 2003). When interpreting the information, individuals often look to peers and nearby networks, "whose subjective opinions of the innovation (based on their personal experience with adoption of the new idea) are more accessible and convincing to them" (Rogers, 2003, pp. 175-176). While evidence-based information is often readily available, information that is believed and internalized usually flows from a trusted peer (Rogers, 2003).

Stage 3—the decision stage—is characterized as the time in which the individual seeks additional information about the innovation, tests out the innovation, and makes a decision to either adopt or reject the innovation (Rogers, 2003). Adoption is a decision to "make full use of

an innovation as the best course of action available" (Rogers, 2003, p. 177). Rejection is a decision "not to adopt an innovation" (Rogers, 2003, p. 177).

The organization's role. Organizational learning is contingent upon individual learning (Senge, 1990). While "individual learning does not guarantee organizational learning," without it "no organizational learning occurs" (Senge, 1990, p. 124). A significant barrier to individual learning in the public sector is not practitioner resistance, but organizational opposition (Hemsley-Brown & Sharp, 2004). Organizations may value and demand innovation, but organizations are rarely structured to facilitate deep inquiry and innovation (Hemsley-Brown & Sharp, 2004).

Typically, organizations have rewarded individuals who advocate their views, rather than individuals who assume stances of curiosity and uncertainty (Argyris, 1996). Organizational leaders must therefore assume more responsibility for building a learning organization—places where leaders are encouraged to expand their capabilities and capacities to improve and examine existing mental models (Senge, 1990). To foster members' openness to new ways of doing and knowing, organizations must anticipate and prioritize internal members' needs and deficiencies in the same manner they anticipate and prioritize those of their clients (Brown & Duguid, 2000). A review of the literature highlighted several strategies organizations can employ to compel central actors to access, interpret, entertain, and adopt research-based innovations such as increasing accessibility and utility, combating selective exposure and certainty, increasing motivation, and leveraging information champions and networks.

***Increase accessibility and utility*.** As researchers disperse evidence-based information to practitioners via deliberate methods of dissemination or more casual methods of diffusion, problems may arise due to the personal, geographical, and professional differences that exist

between researchers and practitioners (Neal et al., 2015). Several dissemination barriers were highlighted in the literature, such as

- lack of perceived relevance and applicability (Mason, 2013; Meyer, 2013),
- form and language used by the research community (Bailey, 2016; Banks et al., 2016),
- accessibility of the research (McDonnell, Stratton, Butler, & Cape, 2012; Meyer, 2013),
- lack of tangible models and frameworks (Bansal et al., 2012), and
- presentation methods used by researchers (Gill, 2018).

Practitioners' ability to translate research into the practice setting is contingent upon the practitioners' ability to access and interpret data from a robust evidence base, recontextualize findings from a given study, engage in research use in deep— rather than superficial—ways, and utilize the inquiry cycle as an improvement tool (Greany & Brown, 2017). While the production of research is abundant and syntheses are often available to practitioners, researchers suggested that organizations that transform relevant information into usable formats and organizational strategies are in short supply (Dyssegaard, Egelund, & Sommersel, 2017). School systems have limited capacity in finding and applying research implications (Levin, 2013), and management students—from undergraduates to executives—typically are not taught, nor do they understand how, to use evidence to inform practice (Rousseau & McCarthy, 2007).

Individuals are unlikely to accept, adopt, and implement an innovation if the individual is not first convinced that adopting and implementing the innovation will yield substantial advantages (Rogers, 2003). Production methods used by the research community make extracting answers to the *what*, *how*, and *why* questions difficult (Bailey, 2016; Banks et al., 2016). To facilitate greater use of research evidence, organizations should increase members' access to research, translate the abstractions of research into the language of practice (Greany &

Brown, 2017), assist members in assessing the validity of research claims (Jones, 2018), and tailor messages to meet the needs of the consumer (Nutley, Walter, & Davies, 2003).

Increase motivation and combat selective exposure. While access and exposure are critical to research uptake, access and exposure do not guarantee implementation (Levin, 2013; Pfeffer & Sutton, 2000). Individuals must be motivated to engage in research use (Brown & Duguid, 2000; Langer, Tripney, & Gough, 2016). Human behavior is mediated by powerful, motivational constructs such as perceived need (Rogers, 2003), personal experiences, attitudes, relationships, and culture (Levin, 2013).

During the early stages of the innovation-decision process, individuals may engage in selective exposure—the tendency to attend to communication messages that are consistent with existing attitudes, needs, and beliefs (Rogers, 2003). Research on knowledge uptake in organizations reinforced Rogers' (2003) finding and showed that individuals within organizations often engage in mindless, intuitive decision-making (Gladwell, 2005; Pfeffer & Sutton, 2000; Rouseeau & McCarthy, 2007) and may resort to what has traditionally been done rather than reflecting on or consulting evidence in the research (Pfeffer & Sutton, 2000). Individuals may draw solutions from the organization's standard operating procedures (Pfeffer & Sutton, 2000), and may reject, reinterpret, or reshape evidence that contradicts organizational precedents (Honig et al., 2017; Jones, 2018; Pfeffer & Sutton, 2000).

Once enacted, these decisions are then endorsed and operationalized and serve as criteria for future actions—regardless if the decision was effective or not (Pfeffer & Sutton, 2000). Should the individual become courageous enough to question organizational norms and advocate use of a new practice, the proposal is often ignored or rejected by other members in the organization (Pfeffer & Sutton, 2000). Organizational structures and deep organizational

assumptions about what is and what is not possible and what can and cannot be done in the future may prohibit members from using knowledge to improve practice (Pfeffer & Sutton, 2000). To disrupt this cycle, organizations must destabilize the organization's culture (Massi & Donahue, 2018) and create space for deliberative rather than instinctual decision-making to occur (Jones, 2018). High-performing organizations facilitate the collaborative examination and active discussion of research evidence to foster dissonance, illuminate issues, and unveil potential solutions (Nutley et al., 2003; Supovitz & Morrison, 2015). In heightening uncertainty, the organization becomes a birthplace for learning and innovation (Massi & Donahue, 2018).

Provoke need and make resources available. Organizational leaders can increase members' readiness for change and openness to new innovations by presenting a compelling case for a change and by connecting the change to some moral imperative (Reeves, 2009). Impetus for change is created when an individual experiences tension between one's preferred future and one's present reality (Rogers, 2003; Senge, 1990; Stroh, 2015). It is this tension that then prompts the individual to seek resolution rather than equilibrium (Senge, 1990; Stroh, 2015). When individuals recognize the need for change and resources are readily available, individuals learn quickly and effectively (Brown & Duguid, 2000).

Foster curiosity, reflection, and critical thinking. To nurture the growth and motivation of practitioners, organizations must stimulate curiosity, reflection, and critical thinking (Austin, Dal Santo, & Lee, 2012). Curiosity is stimulated when individuals develop and explore novel questions, grapple with complex concepts, and confront unresolved problems (Austin et al., 2012). Critical thinking occurs when members develop meaningful questions, evaluate options prior to action taking, interpret information, and identify missing and needed information (Austin et al., 2012). Critical reflection occurs when members analyze a situation, revise assumptions

based on new insight, and learn from their own, as well as others', experiences (Austin et al., 2012).

While one's disposition may predict one's propensity toward curiosity and critical thinking, curiosity and critical thinking can also be stimulated by situation and environment. Specifically, organizations can foster a sense of wonder by (a) encouraging use of *why* questions, (b) rewarding the pursuit of better ways of doing and knowing things, (c) recognizing members who develop new innovative approaches, and by (d) providing resources to staff to search for alternative solutions and strategies (Austin et al., 2012). Likewise, organizations can support and enable critical thinking and reflection by (a) surveying promising practices and providing members access to digestible information, (b) convening staff to discuss and debate relevant sources and citations, (c) creating opportunities for staff to generate and examine critical reflection questions, and (d) conducting after-action reviews to monitor evidence use (Austin et al., 2012).

Provide irrefutable evidence. When combined with positive peer pressure, irrefutable evidence is also a powerful motivator for persuading educators to consider changes to professional practice (DuFour, DuFour, Eaker, & Many, 2010). Vanderlinde and van Braak (2010) suggested that school leaders are more compelled to read and incorporate research findings when the findings have been shown to positively impact another school or organization. As such, communication techniques such as tailoring, which includes aligning communication to decision-makers' needs and preferences, framing, which includes aligning communication with the cognitive characteristics of the desired behavior, explaining uncertainty, which includes decreasing the ambivalence of research, and use of narratives, which includes communicating the

relevance of research results (Langer et al., 2016), may be beneficial in compelling educators to make use of the best available research.

Leverage agencies and information champions. Human behavior is socially negotiated; learning is a social process **(**Bandura, 1977; Brown & Duguid, 2000). Humans learn most effectively from those they deem as attractive or influential, or from those who share similar backgrounds and experiences (Bandura, 1977). In some cases, an organization may need to look outside the organization to formal change agents and liaisons to speed up the innovation-decision process by sponsoring demonstrations of a new idea in a social system (Rogers, 2003). These outside agencies may provide beneficial assistance to practitioners by helping them translate and synthesize research into more useable formats (Bansal et al., 2012; Neal et al., 2015).

Researchers presented mixed findings on the value of intermediary agencies. While some researchers advocated that intermediary agencies or translation roles could provide beneficial assistance to practitioners (Bansal et al., 2012; Neal et al., 2015), others suggested that internal executive-level or divisional-level leaders may play a more important role in leading the learning for their staff (Goodman & Steckler, 1989; Honig et al., 2017). Practitioners typically give greater weight to the opinions and experiences of their colleagues than research evidence (Levin, 2013). For this reason, organizations may find it helpful to leverage internal information champions—a term used to describe a charismatic individual who "initiates the innovation process and follows the idea through approval to implementation" (Rogers, 2003, p. 417).

Effective champions serve as a "key linking position in their organization," understand "individuals' aspirations," and exhibit sound interpersonal and negotiating skills (Rogers, 2003, p. 415). While external assistance relationships may be useful in translating research implications and bridging the gap between researchers and practitioners, internal executive leaders are

especially powerful champions as these individuals have intimate knowledge of the organization's context and structures (Goodman & Steckler, 1989; Honig et al., 2017). A leader's "hands-on engagement in the work" (Honig et al., 2017, p. 966)—as well as a leader's ability to model, mentor, coach, and demonstrate ways to practically use research evidence—helps not only to reinforce the value of research use, but to sustain research use over time (Brown & Zhang, 2016; Garvin, Edmondson, & Gino, 2008). Champions, however, need not occupy executive-level offices; one's influence within the organization is often more critical than one's position (Rogers, 2003).

Provide choice. There are three types of innovation-decisions made in an organization: (a) optional decisions, where the individual is free to make decisions independent of other members, (b) collective decisions, where decisions are made based on the consensus of a group, and (c) authority decisions, where the member of the system has little or no influence in the authority innovation-decision; he or she simply implements the decision once it is made by an authority (Rogers, 2003). While authority decisions typically represent the fastest rate of adoption (Rogers, 2003), these decisions may lead to introjected regulation (Stone, Deci, & Ryan, 2009), and the individual may circumvent the decision during the implementation stage (Rogers, 2003). Introjected regulation refers to a condition in which an employee partially digests external workplace rules (Stone et al., 2009). On the surface, the individual may appear compliant, but deep down the individual may doubt the validity of the rules, and may implement the decision only to avoid guilt (Stone et al., 2009). Employees are more productive, more creative, and approach their work with more volition when working for leaders who minimize coercive controls and create cultures in which the individuals have a sense of agency and are provided choice (Stone et al., 2009).

Case example: Community-led total sanitation. According to the International Institute for Environment and Development (Internal Institute for Environment and Development, 2010), over 2.6 billion of the world's population lacks access to proper toilet facilities. Open defecation—the practice of defecating outside and in shared, open spaces—results in disease and diarrhea, which in turn leads to 1.8 million deaths every year (Internal Institute for Environment and Development, 2010). Many conventional relief programs linked the problem to a lack of knowledge and an absence of resources (Internal Institute for Environment and Development, 2010). These organizations assumed that if communities were educated about the importance of proper sanitation and hygiene, and if these communities were given access to operable latrines, the communities would change their behaviors and disease would dissipate (Internal Institute for Environment and Development, 2010). Organizations using community-led total sanitation (CLTS) interventions assumed that knowledge and resources alone would not be sufficient to facilitate behavior change and devised an unconventional approach to expose community members to conflicting messages (i.e., psychological dissonance) and create a sense of felt need and dissatisfaction (Internal Institute for Environment and Development, 2010).

The mission of CLTS is to end open defecation and promote long-lasting behavior change (Internal Institute for Environment and Development, 2010). The organization believes that impetus for behavioral change comes not from the head but from the gut, where emotions reside (Internal Institute for Environment and Development, 2010). In response to this belief, the organization relies not on the dissemination of knowledge or the construction of latrines but on a participatory approach called "triggering" (Kar & Chambers, 2008, p. 21). On-site facilitators use participatory appraisal techniques—an approach that encourages people to "look at, talk about, and deal with their shit"—to incite strong emotions such as shock, disgust, and

embarrassment, and ultimately trigger the community's collective action towards ending open defecation (Internal Institute for Environment and Development, 2010, p. 3). As part of CLTS' triggering process, facilitators and community members conduct a transect walk through the village's open defecation areas (Kar & Chambers, 2008). Facilitators use questions such as those listed below to structure discussions during the walk:

- Who comes to shit here?
- Whose shit is this?
- Do you see any difference in shape, color, or form? What do you think the reasons could be for such differences?
- What type of shit (solid, liquid, dry, or wet) attracts more flies?
- Do you see any living things on this fresh shit (e.g., flies, maggots, insects, etc.)?
- Why are you covering your nose? Why are you disgusted?
- How far can the flies carry this shit? Are these flies visiting your homes and landing on your food?
- Do you enjoy living in this environment? (Bongartz, Musyoki, Milligan, & Ashely, 2010, p. 34)

In addition to this inquiry protocol, facilitators take participants through a process of "calculating shit" (Internal Institute for Environment and Development, 2010, p. 9). Community members calculate the amount of shit each family produces per day, per week, per month, and per year (Internal Institute for Environment and Development, 2010). The amounts are then added up to estimate the amount of shit produced by the whole community (Internal Institute for Environment and Development, 2010). Inevitably, someone will ask, "Where does all this shit go?" (Internal Institute for Environment and Development, 2010, p. 9). The request for more

information prompts the facilitator to illustrate the fecal-oral contamination route—an activity that demonstrates how people routinely drink contaminated water without being aware of it (Internal Institute for Environment and Development, 2010).

The facilitator begins by offering a glass of water to a community member and asks the member to take a sip (Internal Institute for Environment and Development, 2010). After the member has consumed the water, the facilitator then takes a hair, a stick, or a blade of grass, and wipes it through some shit before dipping it into the water (Internal Institute for Environment and Development, 2010). The facilitator then offers the water again for consumption, but this time the community members refuse it (Internal Institute for Environment and Development, 2010). When asked why, members respond, "it contains shit" (Kar & Chambers, 2008, p. 35). The facilitator then compares the hair to a fly's leg, pointing out that because the fly has six legs, the fly transfers even more shit to food and water (Internal Institute for Environment and Development, 2010). The facilitator then asks if the community members ever see flies in their food (Bogartz et al., 2010). Members respond, "Yes," and in responding, recognize they have been consuming shit without even realizing it (Bogartz et al., 2010, p. 34).

This "water and shit exercise" is then used to illustrate ways in which open-defecation practices lead to increased medical expenses (Internal Institute for Environment and Development, 2010, p. 13). As part of the exercise, participants calculate how much money is spent on payment for medication, doctors, and associated travel and lodging costs (Internal Institute for Environment and Development, 2010). The process of triggering—"experiencing the disgusting sight and smell in this new collective way, accompanied by a visitor to the community" (Kar & Chambers, 2008, p. 185)—creates what Rogers (2003) referred to as a sense of need, disturbance, and dissatisfaction.

Discussion. According to Crocker, Saywell, and Bartram (2017), who surveyed households from villages in Ethiopia and Ghana one year after implementing CLTS interventions to determine if sanitation outcomes were sustained, the use of intermediary agents, participative methods, and triggering to facilitate behavior change worked. The research team found that reductions in open defecation were sustained for three of the four CLTS interventions evaluated (Crocker et al., 2017). Only one intervention saw reversion back to open defecation (Crocker et al., 2017).

Alternate perspectives. The use of pressured decision-making tactics—such as those employed with CLTS—must be employed with caution and sensitivity (Moller, Ryan, & Deci, 2006). According to Deci (2017), the leader's role is not to motivate or pressure the individual, but to create conditions within which the individual will motivate themselves. Motivation techniques that rely on pressure or control, or coercion or scare tactics, to regulate behavior result in behavior change that is less maintained than when the motivation is conducted in a manner that supports choice, minimizes pressure, and respects the needs and perspectives of the individual (Moller et al., 2006; Pink, 2009).

Open-ended questions such as "What do you make of this?" should be used to create autonomously supportive conditions and to engage the participant in the identification and solving of critical problems (Stone et al., 2009, p. 8). Closed questions such as "Have you tried fixing the problem by …?" or "Do you understand how important it is to …?" should be avoided, as these questions reduce the individual's sense of agency and may result in passive compliance (Stone et al., 2009, p. 9). When individuals are motivated by guilt, shame, or the need to feel like a good and worthy person, they experience work and change as an obligation (Stone et al., 2009). This type of motivation has been associated with poor workplace performance, lower creativity,

drug and alcohol abuse, and poor psychological health (Deci, Koester, & Ryan, 2001; Gagné, Koestner, & Zuckerman 2000). Leaders who want to create conditions for long-term, autonomous motivation must resist the tendency to fix, advise, or correct, and rely instead upon the positive, motivational potential of supportive dialogue (Stone et al., 2009).

Summary of stages 1 through 3. The gap between research and practice has been framed as an issue of knowledge transfer and attributed to practitioners' tendency to engage in selective exposure rather than critical thinking and examination. To increase research engagement in the decision-making process, researchers stressed the need to reduce the complexity of research implications and leverage peer networks and information champions who focus specifically on the unique traits, features, and needs of the practitioner. Presenting a compelling case for change, providing irrefutable evidence, and amplifying peer pressure may serve as powerful motivators in the early stages of the innovation-decision process, but studies also showed that self-concluding decisions may result in deeper conviction and commitment.

Stages 4 through 5: From Decision-Making to Action Taking

The implementation stage represents the time in which an individual or other decision-making unit puts the innovation to use—shifts from decision-making to action taking (Rogers, 2003). Stages 1 through 3 represent mental processes of thinking, feeling, deciding, and looking to others for reinforcement and confirmation (Rogers, 2003). Implementation, however, is characterized by overt behavior change—the time during which knowledge is put into practice by the individual (Rogers, 2003).

During the implementation stage, there is a degree of uncertainty, and the individual requires support in operationalizing the innovation (Rogers, 2003). To provide security and ensure long-term adoption, change agents may be used to provide technical assistance and

support (Rogers, 2003). The duration of the implementation stage varies depending on the nature of the innovation, but eventually a point is reached when the new idea becomes institutionalized or is reinvented to meet the needs of the individual or the organization (Rogers, 2003).

Stage 5—the confirmation stage—represents the time in which the individual seeks to avoid a state of dissonance or to reduce it, if and when it occurs (Rogers, 2003). Discomfort may prompt the individual to question a previous adoption decision or abandon the practice altogether (Rogers, 2003). Two types of discontinuance may occur: (a) replacement and (b) disenchantment (Rogers, 2003). Replacement discontinuance represents the decision to reject the original idea in favor of a better idea (Rogers, 2003). Disenchantment discontinuance represents the decision to reject an idea as a result of dissatisfaction with the innovation's performance (Rogers, 2003).

The organization's role. Up to this point, I have focused primarily on ways the organization can facilitate an individual's use of research along the decision-making path. The antecedents that drive an individual to adopt an innovation differ from those that compel the individual in the postadoption stages. In the early stages of the innovation-decision process, organizational leaders must enhance access to information, create optimal conditions for members to interact with new information, and ensure members develop favorable attitudes and feelings toward the innovation (Rogers, 2003). As members transition from decision-making to implementation, the organization must create fertile ground for successful implementation to occur (Sharples, Albers, & Fraser, 2018).

Autonomy and high levels of knowledge and expertise may facilitate engagement in the innovation process, but these conditions do not guarantee or predict successful implementation (Zaltman, Duncan, Holbek, 1973). In fact, these structural characteristics may in fact make it difficult for the organization to implement research innovations (Zaltman et al., 1973). Human

beings—despite good intentions—often succumb to counter-intentional habits; social norms may override the individual's objectives—however powerfully motivated— and situational conditions may impede members from acting in ways congruent with their beliefs and values (Jackson, 2005). The literature showed the importance of formalization and disciplined inquiry in the implementation stages—specifically that organizations implement in stages, adopt a continuous learning and continuous improvement process that honors both theoretical and practical wisdom, establish accountability mechanisms, and immerse members in networks through which ideas and feedback can flow freely. None of this, however, can occur without trust and psychological safety.

Establish a climate of support. Uncertainty and risk increase as the individual transitions from the decision stage to the implementation stage and tests the innovation (Rogers, 2003). The decision to adopt an innovation is different from knowing how to put the innovation to use in a specific context and under specific conditions (Bansal et al., 2012; Rogers, 2003). Knowledge conveys what is known but does not guarantee positive implementation outcomes, such as changes in behavior, or positive intervention outcomes, such as benefits to consumers (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). In addition to knowing what to do, practitioners at this stage in the innovation-decision process need how to knowledge and ongoing support (Bansal et al., 2012). Problems and issues related to the use of the innovation may surface during the process, and failure to provide the individual support could prompt the individual to reject the innovation (Rogers, 2003). It is this point in the decision-making process when the organization must shift from inducing uncertainty and insecurity—i.e., performance gap—to reducing uncertainty and providing security.

Sharples et al. (2018) identified several questions leaders can use to assess organizational climate and evaluate conditions of support:

- Does our [organization] have a climate that is conducive to good implementation?
- Do staff feel empowered to step forward and take on implementation responsibilities?
- How do day-to-day practices affect the motivation and readiness of staff to change? (p. 13)

Emphasize trust and psychological safety. Trust is essential to turning knowledge into action (Garvin et al., 2008; Pfeffer & Sutton, 2000). Individuals who live in fear of punishment will not take risks, share information, or make suggestions about how to improve or reform present practices (Garvin et al., 2008; Pfeffer & Sutton, 2000). Fear perpetuates repetition of past mistakes and causes members to recreate past problems and prevents members from leveraging knowledge of how to improve the organization (Pfeffer & Sutton, 2000). In high-performing organizations, failures are used not to cast blame, but as a learning tool (Aarons, 2006; Bryk et al., 2015; Pfeffer & Sutton, 2000). "Data are not blunt instruments for imposing sanctions," according to Bryk et al. (2015), but are "resources used to deepen understanding of current operations" and to "generate insights about how to focus future improvement efforts" (p. 61).

Edmondson (2011) identified several practices leaders could adopt to promote psychological safety in the workplace:

- Frame the work accurately–educate members on the types of failure they may experience in the workplace and ways in which open, collaborative dialogue creates opportunities to learn from failure;
- Embrace messengers–reward members who are brave enough to share bad news about projects and empower them to develop solutions;

- Acknowledge limits–acknowledge strengths and limitations. Own mistakes, accept responsibility for actions, and seek the views of all stakeholders, which encourages others to do the same; and
- Invite participation—encourage members to undertake intelligent experiments.

***Implement in stages and practice disciplined inquiry*.** Once conditions of trust have been established, improvement in successful organizations occurs in a messy, iterative process, during which leaders plan and execute implementation decisions in stages and cycles (Bryk et al., 2015; Sharples et al., 2018). Reformists tend to implement fast and wide—suggesting that problems can be resolved later—but this strategy has failed time and time again (Bryk et al., 2015). Instead, organizations should adopt fewer, more strategic choices, and pursue those strategies diligently (Sharples, et al., 2018).

New innovations and behaviors will only be sustained if people can link adoption decisions to improved outcomes (Stroh, 2015). As such, reflective experimentation is critical (Senge, 1990; Stroh, 2015). Building in time for individuals to pause, analyze results and outcomes, modify ideas and methods based on reflection and feedback, revise implementation strategies, and continue the learning cycle ensures long-term sustainability and improvement (Bryk et al., 2015; Garvin et al., 2008; Senge, 1990; Stroh, 2015). This rapid process of disciplined inquiry is also known as the Plan, Do, Study, Act Cycle (Bryk et al., 2015).

Treat knowledge as provisional. Education is known for its tendency to "implement fast, learn slow, and burn goodwill as [they] go" (Bryk et al., 2015). The introduction of a new reform effort or new idea often creates a sense of enthusiasm and urgency, but when outcomes fall short, "enthusiasm wanes" and the "field moves on to the next idea without ever really understanding why the last one failed" (Bryk et al., 2015, p. 113). When confronted with conflicting messages,

leaders must be encouraged to resist the urge to simply "move on to the next reform idea" (Bryk et al, 2015, p. 6) and accept instead that knowledge is never complete or static (Bryk et al., 2015; Jones, 2018; Stroh, 2015).

Leaders must remain flexible and adaptable in the face of new information and conditions (Stroh, 2015). Facts provide a sense of comfort and control, but facts have "half-lives" and grow and change just like radioactive materials (Arbesman, 2012, p. 3). It is difficult to replicate the precise conditions under which a given generalization will hold (Levin, 2004). Theories must therefore remain provisional and be treated with a spirit of "possibly wrong and definitely incomplete" (Bryk et al., 2015, p. 79). While knowledge and theory should inform strategy and organizational decisions, leaders must embrace continuous learning and attend to emerging evidence about what works, in what situation, and for whom (Bryk et al., 2015).

Aggregate evidence and honor context. Wisdom and truth do not reside in one source (Schein, 2004). It is rare in education to link a single intervention to an immediate and direct impact (Bryk et al., 2015). Research recommendations and theories rarely translate into the simple, direct changes as promised in the literature (Greany & Brown, 2017). This is not to suggest that research evidence or research recommendations should be abandoned, but that research must be combined with multiple forms of evidence (Greany & Brown, 2017) such as practitioner expertise, local experience, priorities, and needs (Jones, 2018; Rosseau & McCarthy, 2007). Researchers who stand apart from the work are not "better knowers" and improvement is not something that should be "delivered to educators" or "done to them" (Bryk et al., 2015, p. 33). Instead, research should be paired with insights from the job floor and from those who hold first-hand knowledge about the problems the organization seeks to solve (Bryk et al., 2015).

Context matters (Bryk et al., 2015; Jones, 2018; Levin, 2013). Leadership decisions must

be informed by research evidence, as well as what seems plausible for the parties who will carry out the changes and conditions within the current system (Bryk et al., 2015). Questions such as, "Is this context conducive to the proposed changes or practices?" and "What will it take to make it work here?" can be used to assess organizational context and examine ways in which research recommendations should be changed in order to be integrated into the given context (Bryk et al., 2015, p. 84).

Leaders must also develop a bias toward action (Pfeffer & Sutton, 2000); evidence-informed leadership is not a science, but a practice (Levin, 2013). Knowledge and truth must be pragmatically discovered (Schein, 2004). Learning is best achieved through experimentation—learning from what works and what does not, thinking about what was learned, revising one's strategy, and trying again (Pfeffer & Sutton, 2000). Those who do, learn (DuFour et al., 2010).

***Develop an accountability mechanism*.** Nothing changes or sustains in an organization unless there is a mechanism in place to monitor implementation (Buckingham, 2005; Pfeffer & Sutton, 2000). One of the most powerful communication mechanisms a leader has access to is the power of attention and focus (Schein, 2004). What a leader recognizes, rewards, and pays attention to serves as a critical driver in the change process (Schein, 2004). To ensure successful, long-term implementation, organizational leaders need to create a common and explicit understanding of what will be expected, monitored, supported, and rewarded during the implementation process (Sharples et al., 2018).

In their investigation of accountability in clinical practice, Oussedik et al. (2017) described the importance of accountability—and deemed it a missing construct in adherence literature. The authors used the context of piano lessons to illustrate the importance of accountability and social support in supporting growth, learning, and behavior change:

> Students take once-a-week piano lessons and have a recital in 10–12 weeks. In anticipation of each weekly lesson, students practice. If it were not for weekly piano lessons, it is unlikely that students would practice much until just before their recital. The anticipation of the weekly social interactions between the student and the teacher is critically important in holding the student accountable to practice (even if there is no formal accounting of exactly when the student practiced). (Oussedik et al., 2017, p. 1285)

Oussedik et al. (2017) distinguished between two forms of accountability, (a) controlled accountability—which refers to account-giving under pressure or duress, and (b) autonomous accountability—under which the individual pursues behavior change for positive reasons. The authors extended the above piano scenario to illustrate key differences between controlled accountability and autonomous accountability:

> Controlled accountability is the accountability of a cold, strict piano teacher who shames students who do not practice. In this example, there is a controlling, external motive for the student to practice. While the piano teacher may not have any formal, validated means for assessing how often or how much the student practiced, the student may still feel pressured to practice by the expectation of the social interaction that will take place at the lesson. In its traditional sense, accountability has mainly been considered a controlling behavior. (Oussedik et al., 2017, p. 1289)

In contrast to controlled accountability, is autonomous accountability, which the authors described in the following scenario:

> an autonomously motivated learner may be excited about sharing their progress with a beloved teacher, may feel an internal sense of pride for performing well for the teacher, or may have the belief that practicing in anticipation of a lesson is simply the correct thing to do (Oussedik et al., 2017, p. 1289).

There is scholarly disagreement on the subject of accountability. While Oussedik et al. (2017) advocated the importance of accountability, others argued that old-school carrot-and-stick approaches may boost short-term performance, especially on easy, unambiguous tasks (Gagné & Deci, 2005; Pink, 2009), but the consequence of this motivational technique may be inferior quality performance. Furthermore, accountability may result in workplace turnover, decreased job satisfaction, and disengagement (Stone et al., 2009). Stone et al. (2009) advocated that

leaders shift from the use of accountability measures toward autonomous motivation strategies, as described in previous sections.

To ensure efforts are sustained over time, organizational leaders must dispel the notion that a good idea alone will guarantee success (Bryk et al., 2015). The transmission view of communication depicts knowledge transfer as a straightforward process—that knowledge of what to do automatically prompts changes in policy and practice (Levin, 2004). Knowledge, however, is rarely unproblematically implemented into the practice setting (Levin, 2004) because social relations and organizational context heavily influence policy and practice.

Complex systems such as schools are beyond all-encompassing generalizations (Jones, 2018). Dissonance is inevitable, and implementation efforts will yield unpredictable results (Bryk et al., 2015; Jones, 2018). One cannot predict ahead of time all the details that need to be considered, nor can one anticipate all the unintended negative consequences that might ensue (Bryk et al., 2015). A leader's best possible judgement may turn out to be incorrect—even if the judgement is based on the best available evidence (Jones, 2018).

Case example: Weight Watchers. Jean Nidetch had a cookie problem (McFadden, 2015). She tried pills, hypnosis, and fad diets that produced intermittent results; Jean would lose the weight only to regain it, and sometimes more weight (McFadden, 2015). In 1961 Jean visited an obesity clinic after being mistaken for a pregnant woman and enrolled in a ten-week program (McFadden, 2015). While Jean understood the consequences of her actions and wanted to change, she could not seem to break her cookie habit (McFadden, 2015).

Jean's story changed the day she decided to confide in a trusted friend (McFadden, 2015). After sharing her story with a peer, she invited six overweight friends to her home for what evolved into a peer network of support (McFadden, 2015). The women all went on a diet

together, made a pledge of mutual support, and began meeting regularly to share recipes, set realistic goals, weigh in, provide confessions, and listen to motivational speakers (McFadden, 2015). The program worked, and within two months, the program grew from seven to 40 members (McFadden, 2015). Members followed the typical plan as set forth by health professionals and popular magazines—lean meat, fish, skim milk, fruits and vegetables, no alcohol or sugary sweets (McFadden, 2015). Jean's business, which later became known as Weight Watchers, exploded; by 1968 hundreds of franchises were organized around the world with a membership of over 5 million people (McFadden, 2015).

Discussion. The Weight Watchers program includes a number of principles described in this review of literature. First, the program includes clear parameters for what will be monitored and measured (Sharples et al., 2018), and at the same time equips individuals with the skills necessary to guarantee successful implementation (Bansal et al., 2012). Second, it creates conditions of autonomous accountability (Oussedik et al., 2017) and psychological safety (Stone et al., 2009). Finally, implementation is seen as a process through which members individually and collectively learn from failure and by doing (Aarons, 2006; Bryk et al., 2015; Pfeffer & Sutton, 2000), while entrenched in a network of trust and emotional support (Pfeffer & Sutton, 2000).

The Weight Watchers program works (U.S. News & World Report, 2019). According to rankings released by U.S. News and World Report (2019), Weight Watchers has retained its spot as the number one company for weight loss for nine consecutive years. The overall weight loss ranking list took into account short-term and long-term weight loss scores (U.S. News & World Report, 2019). While other diets enabled faster weight loss, Weight Watchers consistently results

in long-term weight loss, which is more important to an individual's overall health (U.S. News & World Report, 2019).

Case examples: 7-Eleven, Army, Bridgewater, and IBM. Weight Watchers serves as an exemplar for ways organizations can combine how-to knowledge with a network of support while sustaining motivation through a cadence of accountability, but members who enroll in Weight Watchers do so voluntarily and are not necessarily employed by the organization. In search of a set of routines and methods organizations use to support employees in continuous learning and evidence-informed implementation efforts, the following case studies were consulted.

7-Eleven. 7-Eleven, a convenience store established in 1927, uses online video tools to connect employees across the company in a bi-weekly conversation to review implementation efforts (Forsythe, Kuhla, & Rice, 2018). The organization conducts a two-hour video call with all field operators every two weeks (Forsythe et al., 2018). Approximately 4,000 employees participate as organizational leaders facilitate a conversation around an overall strategy to examine what is working, what has failed, what has been tried, and how the strategy might be adapted to yield more sustainable, viable results (Forsythe et al., 2018).

Army. The U.S. Army is one of the few organizations to have institutionalized a group-level reflection and review process (Garven, 2000). After Action Reviews (AARs) were first introduced in the mid-1970s and were designed to capture lessons from the simulated battles of national training centers (Garven, 2000). AARs were designed to routinize learning and create conditions for continuous improvement and reflection to occur (Garven, 2000). After an important activity or event, participants are asked to review the event, report successes and

failures, and identify opportunities for improvement (Garven, 2000). While the audience, formality, and duration may vary, the discussion always includes four questions:

1. What did we set out to do?
2. What actually happened?
3. Why did it happen?
4. What are we going to do next time?

Bridgewater. Bridgewater, an American investment management firm, was founded by Ray Dalio in 1975 and manages $160 billion for approximately 350 of the largest and most sophisticated global clients, including public and corporate pension funds, university endowments, charitable foundations, supranational agencies, sovereign wealth funds, and central banks (Bridgewater, n.d.). Bridgewater operates from a position termed *idea meritocracy*—the belief that the best ideas and evidence should come to the forefront so that the best decisions can be made (Kegan & Lahey, 2016). The company's culture is one in which members are open and honest about disagreements and test each other's logic, regardless of the person's position or rank within the organization (Bridgewater, n.d.). At Bridgewater, discovering mistakes and weaknesses is valued as it leads to improvement and innovation Bridgewater, n.d.).

Working in an idea meritocracy requires that individuals shift from worrying about how good they are to how fast they are learning (Kegan & Lahey, 2016). The organization uses a number of tools, such as the issues log, to aggregate and appraise evidence and ultimately adjust processes and behaviors accordingly (Kegan & Lahey, 2016). The issues log is a tool employees use to identify anything that went wrong (Kegan & Lahey, 2016). The issues log "acts like a water filter that catches garbage" by "examining the garbage and determining where it came

from" so that employees can determine how to eliminate the issue at the root-cause level (Kegan & Lahey, 2016, p. 128).

Bridgewater believes that creating excellent outcomes requires setting ambitious goals and applying the organization's principles to achieve those goals (Dalio, 2017). Principles inform how the organization responds to situations, but the principles represent an evolving record of the organization's understanding of what works (Dalio, 2017). Principles are not just read and followed, but stress-tested on an individual and collective level (Dalio, 2017).

IBM. IBM, a computer technology and IT consulting firm, is known for its ability to routinize business transactions (IBM, n.d.-a). The organization introduced the tabulating machine, the magnetic tape machine, magnetic swipe strips, was granted the first patent for LASIK surgery technology, and introduced artificial intelligence through Project Watson (IBM, n.d.-a).

Professionals at IBM use design thinking to solve problems at scale and move from intention to action (IBM, n.d.-b). Design thinking focuses on user outcomes, is generated by diverse, empowered teams, and entails restless reinvention (IBM, n.d.-b). After conducting extensive research, IBMers reflect on the evidence from multiple perspectives, uncover insights, devise a plan, and prototype concepts (IBM, n.d.-b.). The Feedback Grid is an activity IBMers use to gather and organize feedback and to unpack questions either in real time or following implementation (IBM, n.d.-b.). During this activity, IBMers identify things that worked, things to change, new ideas to try, and remaining questions (IBM, n.d.-b)

If evidence is going to be used by individuals and teams, three conditions must be present: (a) individuals and teams must have the necessary skills and knowledge to engage with and interpret the evidence, (b) individuals and teams must be motivated and situated to engage

with the evidence, and (c) individuals and teams must have the opportunity to engage with the evidence (Langer et al., 2016). While the organizations highlighted in this section represent diverse industries, these case examples highlight that provided the right conditions and supports, dissonance can be harnessed to fuel continuous improvement and continuous learning.

Summary of stages 4 through 5. The case studies and literature analyzed in this section of the literature review showed that the conditions needed to motivate individuals to access and entertain innovation in stages 1 through 3 may actually leave the organization vulnerable in the implementation and confirmation stages. Formalization in the early stages may impede openness to research innovations, but formalization in the latter stages actually promotes implementation (Rogers, 2003). For successful implementation to occur, individuals must be equipped with both motivation and the knowledge and skills needed to engage with, interpret, and translate research implications into coordinated action (Langer et al., 2016). Additionally, for successful implementation to occur, individuals must be immersed in a network of support, aggregate multiple forms of evidence as part of a disciplined improvement cycle, engage in continuous learning, and be held accountable to a set of measurements and performance standards.

Research-Engaged Schools: Best Practices for Local Authority Staff

Research use holds the potential to increase student outcomes, improve student engagement, and enhance teacher effectiveness (Godfrey, 2016). To achieve this in the educational setting, school leaders must commit to a research-rich pedagogy, a research orientation, the promotion of research communities, and systematic use of research to inform policy and practice (Handscomb & MacBeath, 2003). Schools successful in creating these conditions have been referred to in the literature as research-engaged schools (Handscomb & MacBeath, 2003). A research-engaged school differs from other schools in that it

- promotes practitioner research,
- encourages staff to read and be responsive to published research,
- welcomes opportunities to participate in research, and
- uses research to inform its decision-making at every level (National Foundation for Educational Research, 2010).

Research-engaged schools not only prioritize research use but create structures through which groups systematically collaborate on research and engage in inquiry activity (Godfrey, 2016). Practitioners within these organizations engage *in* research and *with* research in systemic and structured ways to select, institute, and experiment with ideas and solutions presented in the literature (Godfrey, 2016).

The role of the local authority. According to Godfrey (2016), the most research-engaged schools had

> very highly identified leadership support for engagement in (doing), and with (accessing and using) research; very strong support systems, including mentoring arrangements and training in research skills; a very high amount of research activity, involving a significant proportion of staff (and sometimes involving students); plentiful examples of impact within and beyond the school of the school's research efforts and a strong and well-understood research structure. (p. 314)

Local authority staff such as superintendents and central office personnel play a critical role in establishing and supporting research-engaged schools by helping staff such as campus principals acquire and interpret research implications, creating conditions for engagement to occur, and ensuring that widespread, ongoing engagement occurs within schools and across district networks (Sharp, Handscomb, Eames, Sanders, & Tomlinson, 2006). From explaining the concept of research engagement, to encouraging schools to participate in the examination and use of research evidence, to establishing priorities, providing leadership, and valuing inquiry and

research, local authority staff create favorable conditions through which research engagement can occur (Sharp et al., 2006).

Establish conditions of distributed leadership. Establishing the conditions of a research-engaged school may take several years (Godfrey, 2016). In pursuit of these conditions, school leaders may need permission to pause and reflect on practices (Garvin et al., 2008) and to prioritize institutional and professional knowledge creation over the day-to-day oversight of teaching and learning (Tan, 2012). This would require distributed, collective leadership—leadership teams who could share the responsibility for defining, implementing, and overseeing the school's teaching and learning strategy (Godfrey, 2016).

Guide rather than prescribe. According to Sharp et al. (2006), while school leaders may benefit from focusing on a few broad research themes, local agents should avoid being too prescriptive and should provide school leaders with choice. Local agents may wish to suggest contacts or sources for information, and may use questions such as those listed below to guide school leaders through the process of locating appropriate research materials:

- Does your authority have statistics on the issue?
- Is there someone in the local authority agency who knows about this?
- Where could the school find out about other research in this field (Sharp et al., 2006, p.6)?

Build networks of support. Unless school leaders participate in a larger group network, school leaders can easily lose momentum and enthusiasm (Sharp et al., 2006). Local advisers can establish local networks (Espinoza & Cardichon, 2017), make school leaders aware of existing networks, act as a broker between interest groups, provide leaders with a critical friend to critique and challenge research engagement, help schools establish conditions that support

research activity, and bring school teams together to share progress and findings (Sharp et al., 2006). Habits such as the following could be used to facilitate a research-based learning community:

- When someone makes an assertion, ask for evidence—"What evidence do [you] have to support [your] thinking?
- Make space for professional dialogue (e.g., staff meetings).
- Encourage staff to share and reflect on their practices.
- Demonstrate the value of research: refer to research findings and model use of research to inform decision-making.
- Make a commitment to listen to and act on the results of research, even if they challenge existing views and practices (Sharp et al., 2006).

Articulate expectations. To realize the potential of research use, local authority staff must believe in the potential of research engagement and use their position to articulate expectations of engagement (Sharp et al., 2006). Once school leaders have been trained to use the cycle of inquiry and have been connected to a larger peer network of support, local authority staff must assist leaders in translating research into individual and team goals (Sharp et al., 2006). These goals should then inform performance management priorities and targets, which can then be used to inform future cycles of inquiry (Sharp et al., 2006). School leaders may need incentives to collaborate across departments with other school personnel and to participate in partnerships with research teams (Godfrey, 2016). Likewise, an environment of support—one that emphasizes professional responsibility over strict accountability (Cranston, 2013)—is needed to promote collaboration across schools and ensure improved educational outcomes for all students (Godfrey, 2016).

Conclusion

Blaming the practitioner and using carrots and sticks to compel leaders such as campus principals to access and use research to inform decision-making and action taking is a short-sighted approach (Hemsley-Brown & Sharp, 2004). Energy would be better expended establishing the organizational conditions that facilitate research use, rather than attempting to motivate or discipline the individual (Hemsley-Brown & Sharp, 2004). This chapter provided an overview of literature and case studies relevant to the proposed study. The next chapter provides a detailed description of the proposed methodological design.

Chapter 3: Research Methods

Research published across the social sciences and in the field of education provided numerous examples of how educational practices could be improved, but the research is not being used to inform improvement efforts (Levin, 2013), and improvement is not happening "at the speed and scope of what is possible" (Bryk et al., 2015, p. ii). The purpose of this multiple-case study was to determine ways in which organizations such as public school districts can compel central actors such as campus principals to use research to inform leadership decisions and introduce practices linked to favorable outcomes into the practice setting. To achieve this objective, I examined decision-making processes used by principals responsible for the diffusion of research-based interventions at the campus level, explored how principals perceive the relationship between research and practice, and identified organizational conditions that impede and promote research engagement.

The study was guided by the following research questions:

RQ1: How do principals and principal appraisers perceive the relationship between research and practice?

RQ2: How do principals gather, interpret, and use research to inform decision-making and action taking?

RQ3: How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?

RQ4: What organizational conditions promote and impede research engagement?

This chapter provides the study's (a) research design and rationale, (c) sample population, (d) data collection and analysis methods, and (e) ethical considerations. A culminating summary will conclude this chapter.

Research Design and Methods

A multiple-case study design was used to explore the central phenomenon and develop a more in-depth understanding of how principals gather, interpret, and use research to make campus-level decisions. According to Yin (2018), a case study design is applicable when the researcher's objective is to investigate a contemporary phenomenon within its real-world context, understand how participants think about and experience a particular phenomenon, unearth contextual conditions relevant to the phenomenon under investigation, and produce an extensive and in-depth description of the phenomenon. Because the aim of this study was to investigate the process through which principals make decisions and examine the organizational factors that influence decision-making, use of a multiple-case study design was deemed most appropriate.

Teacher retention data and teacher effectiveness studies provide a clear, quantitative understanding of what is happening in education:

- The majority of students spend the school day sitting, listening to the teacher, and working on low-level assignments (Antonetti & Garver, 2015; Goodlad, 1984; Pianta et al., 2007).
- Nearly half of all teachers leave the profession within their first five years of teaching (U.S. Department of Education, 2016).
- The majority of teachers have failed to demonstrate growth and improvement from one year to the next (TNTP, 2015).

- Six to 17 percent of the very best teachers leave their districts at the end of each school year (TNTP, 2012).

While essential to understanding present circumstances, this numerical data has failed to acknowledge why what is happening is happening and what could be done to ensure interventions identified by the research community are introduced into the practice setting. Moreover this quantitative data does not explain why principals—who serve as one of the highest leverage points for improving the organizational conditions linked to retention and student achievement (Boyd et al., 2011; Johnson et al., 2011; Kraft et al., 2016; Podolsky et al., 2016)—have been unable to use research to improve educational outcomes. If every institution is simultaneously a business and a social system representing a web of vested interests, complimentary, qualitative research is needed to capture the "expressive information not conveyed in quantitative data" (Berkwits & Inui, 1998, p. 195) and to explore the social factors that influence and shape how individuals behave in a particular setting (Saldaña & Omasta, 2017).

Setting and Population

The study was confined to the Region 11 service area in Texas, which consists of 77 public school districts and 66 charter campuses (Education Service Center 11, n.d.). This geographical region represents more than 70,699 educators and more than 578,910 students (Education Service Center 11, n.d.). Spanning ten counties in North Texas, Region 11 is roughly the size of the state of Massachusetts and covers an area of 7,843 square miles (Education Service Center 11, n.d.). School districts in Region 11 range in size from Fort Worth Independent School District's large, urban schools to small rural districts with one school building (Education Service Center 11, n.d.).

Principals in the state of Texas. Principals in the state of Texas must (a) hold a master's degree from an accredited university, (b) hold a valid classroom teaching certificate, (c) have two years of creditable teaching experiences, (d) have successfully completed an approved principal educator preparation program, and (e) have successfully completed the required examination (Texas Education Agency, n.d.-a). Once hired, principals in the state of Texas are responsible for the growth, development, and appraisal of classroom teachers (Texas Education Agency, n.d.-b).

The Texas Education Agency—which governs public schools in the state of Texas—adopted the *Texas Teacher Evaluation and Support System*, formally known as T-TESS (Texas Education Agency, n.d.-c). The T-TESS represents the holistic nature of teaching and provides the teacher opportunities to self-reflect and receive ongoing, meaningful feedback from school leaders (Texas Education Agency, n.d.-c). Under the guidelines of T-TESS, principals are expected to use the T-TESS rubric to develop high-quality instructional practices among teachers and coach and develop teachers by providing individualized feedback and appropriately aligned professional development (Texas Education Agency, n.d.-e). Prior to conducting formal observations, principals are required to complete a three-day, face-to-face appraisal training program and pass a certification examination (Texas Education Agency, n.d.-c). The certification examination consists of two steps—viewing and scoring a sample lesson and providing post conference responses (Texas Education Agency, n.d.-c).

Principal appraisers in the state of Texas. The term principal appraiser refers to the individual who has been appointed by the district to evaluate a building principal (Texas Education Agency, n.d.-a). Principal appraisers play a pivotal role in student achievement by providing principals with the "guidance and feedback" needed to serve as "balanced, effective leaders" (Texas Education Agency, n.d.-c, para. 1). Under the requirements of the Texas

Principal Evaluation and Support System (T-PESS), appraisers are expected to provide ongoing, objective, standards-based feedback to principals in an effort to strengthen the larger system of educator quality and effectiveness in the state of Texas (Texas Education Agency, n.d.-g).

The following standards represent the framework of the T-PESS:

1. Standard I. Instructional Leadership
2. Standard II. Human Capital
3. Standard III. Executive Leadership
4. Standard IV. School Culture
5. Standard V. Strategic Operations

Inspired by research on effective school leadership (Marzano, Waters, & McNulty, 2005; Waters & Cameron, 2007; Waters, Marzano, & McNulty, 2003), a steering committee appointed by the commissioner of education identified 21 specific leadership responsibilities and 66 associated practices that demonstrated a statistical link between principal leadership and student achievement (Texas Education Agency, n.d.f). The selected leadership responsibilities and associated practices were then embedded into the T-PESS rubric, under the five standards of professional practice, to assist the principal in the identification and adoption of high-leverage leadership behaviors (Texas Education Agency, n.d.-f). Furthermore, these standards serve as a blueprint for principal leadership and signal ways in which the principal can successfully manage organizational change, implement strategic initiatives, and develop communities of practice committed to the success of all students (Texas Education Agency, n.d.-f).

Three of the 21 responsibilities—intellectual stimulation, change agent, and resources—outline the principal's role in accessing, interpreting, sharing, and executing best practices as identified in the research. Under the responsibility of intellectual stimulation, the principal must

ensure that faculty and staff are aware of current theories and practices, and the principal must foster systemic discussion regarding current theory on effective teaching and learning (Texas Education Agency, n.d.-f). Under the responsibility of resources, the principal must provide teachers with professional development opportunities that directly enhance their teaching (Texas Education Agency, n.d.-f). Under the responsibility of change agent, the principal must actively challenge the status quo, engage in systematic continuous improvement, and stretch the school's capacity to grow and learn (Texas Education Agency, n.d.-f).

Each principal must be appraised on an annual basis (Texas Education Agency, n.d.-g). This annual appraisal must include at least one appraiser-approved goal drafted in response to the principal's prior year summative conference (Texas Education Agency, n.d.-g). Goals must then be maintained and monitored throughout the year, used to inform strategic actions, and evaluated at the end of the year to determine the principal's overall rating (Texas Education Agency, n.d.-g).

The appraisal process consists of a pre-evaluation conference to establish yearly goals, a mid-year conference to discuss and review progress toward established goals, and an end-of-year conference to review data collected throughout the current school year, examine evidence related to the principal's performance on the 21 indicators of the T-PESS rubric, examine evidence related to student growth and progress, and identify potential future goals and professional development activities (Texas Education Agency, n.d.-g). While numerous competencies are embedded in the T-PESS rubric, the principal may or may not personally possess all of these competencies (Texas Education Agency, n.d.-f). However, the principal must ensure the collective leadership team demonstrates these skills effectively and efficiently (Texas Education Agency, n.d.-f).

Participants

I used purposive sampling to select participants for this multiple-case study. Purposive sampling refers to the selection of information-rich cases that best address the research purpose (Patton, 2015). Because this study was primarily concerned with the experiences of campus principals and ways in which organizational conditions potentially influence principals' engagement with research, I assessed both the views of principals and principal supervisors charged with supporting effective school leadership.

The Texas Education Agency uses nine categories to classify districts in the state of Texas: (a) urban, (b) major suburban, (c) other central city, (d) other central city suburban, (e) independent town, (f) nonmetropolitan: fast growing, (g) nonmetropolitan: stable, (h) rural, and (i) charter school districts (Texas Education Agency, n.d.-d). The investigation was limited to three geographically diverse districts in the Region 11 service area—one rural district, one independent town, and one major suburban district. One principal and one principal appraiser from each of the three districts were selected to participate in the study. Participants were screened using the following criteria:

Principals

- Principals must hold a principal's certificate in the state of Texas.
- Principals must have successfully passed the T-TESS examination.
- Principals must be employed in a Region 11 district that has adopted the T-PESS to evaluate principals and the T-TESS to evaluate teachers.
- Principals must be employed by a public school district in the Region 11 service area and have at least two years of experience as a building principal.

Principal appraisers

- Appraisers must hold a principal's certificate in the state of Texas.
- Appraisers must have successfully passed the T-PESS examination.
- Appraisers must be employed in a Region 11 district that has adopted the T-PESS to evaluate principals and the T-TESS to evaluate teachers.
- Appraisers must be employed by a public school district in the Region 11 service area.

Data Collection Procedures

After receiving approval from the Institutional Review Board (IRB) at Abilene Christian University (see Appendix F), I identified participants using purposive sampling and contacted via phone and email to solicit participation and schedule interview appointments (see Appendix B for the phone and email script). An informed consent form, which provided an explanation of the study and described the participants' right to confidentiality and right to withdraw at any time, was distributed to each participant for review and signature.

Throughout the study, I served as the primary instrument for data collection. Because there may be discrepancies between what principals think they are doing, what principals say they are doing, what principals appear to be doing, and what principals are actually doing (MacDonald & Walker, 1975), I compared and crosschecked data through use of observations, and by collecting interview data from individuals with different perspectives (Merriam & Tisdell, 2016). Specifically, I conducted semi-structured, in-depth interviews with principals and principal supervisors in participants' natural work environments to capture the unique impressions and perspectives of those responsible for diffusing research interventions into the practice setting and those responsible for supporting diffusion efforts. To further corroborate the data, I observed the organized routines of principals and the process through which principals make decisions related to teacher development and retention.

Interviews. A semi-structured interview protocol was utilized for each role—one for the principal appraiser and one for the campus principal (see Appendix A)—to disentangle the decision-making process, explore how central actors experience the distance between research and practice, and determine the organizational conditions that promote and impede research engagement. While the interview questions contained similar lines of inquiry, the questions were strategically designed to elicit the perceptions of central actors responsible for implementing research interventions at the campus level, i.e., campus principals, and those who supervise and support campus principals, i.e., principal appraisers. Interview questions and prompts were used as a general line of inquiry, and follow-up stems were used to invite extended discussion and encourage elaboration (Rubin & Rubin, 2005; Yin, 2018). During interview sessions, I collected data through participant illustrations, journaling techniques, and the use of an audio device.

Observations. During the observation process, I served as an observer as participant (Merriam & Tisdell, 2016). My participation in the group remained secondary to my role as an information gatherer (Merriam & Tisdell, 2016). While I used field notes to record the essence of participants' conversations and capture descriptions of the setting, participants, and activities my primary objective was to disentangle the complexity of the decision-making process by constructing a process-chart that reflected the thoughts, plans, and actions involved in the decision-making process (see Appendix C and Appendix D).

Data Analysis Methods

After conducting participant interviews and observations, I copied interview notes and field notes, photocopied illustrations, and transcribed audio files verbatim into Microsoft Word files with the assistance of a third party. To protect the rights and confidentiality of research

participants, the names of persons and organizations were replaced with pseudonyms. Illustrations were edited using computer software to maintain privacy and confidentiality.

Within-case analysis. To gain familiarity with the whole, I carefully reviewed each case, including interview responses, participant diagrams, and observation notes, in its entirety before breaking the data into constituent parts (Bloomberg & Volpe, 2012). Doing so provided an in-depth understanding of and familiarity with how individuals experience the phenomenon under investigation (Merriam & Tisdell, 2016; Yin, 2018).

Reduce and display the data. After poring through each individual case, I reduced the data into meaningful units (Miles & Huberman, 1994). Holistic codes were assigned to units of data (see Appendix E) to capture the essence of participant responses (Miles & Huberman, 1994). Subcodes (see Appendix E)—representing a concept or theme of potential interest— were then assigned to smaller, analytic units (Bloomberg & Volpe, 2012; Yin, 2018). I then organized and displayed themes from interview sessions using data summary tables—one table for each interview question. Decision-making diagrams, as illustrated by participants during interview sessions and captured during principal observations, were displayed using the Smart Art feature in Microsoft Word.

Cross-case analysis. Clustering and displaying condensed units into an at-a-glance presentation established conditions necessary for cross-case analysis and conclusion building (Bloomberg & Volpe, 2012; Miles & Huberman, 1994). I compared the experiences of all participants—as captured in data summary tables and process diagrams—to "build abstractions across cases" (Merriam & Tisdell, 2016, p. 234) and identify meaningful, relevant patterns.

Establishing Trustworthiness

Trustworthiness refers to the credibility, reliability, and validity of research findings and determines whether research is worthy of attention (Lincoln & Guba, 1985). Trustworthiness is contingent upon the methods used to collect, prepare, and report research findings, as well as the measures taken to guarantee rigorous effort (Saldaña & Omasta, 2017). To establish trustworthiness, I engaged in prolonged contact with participants, conducted interviews in participants' naturalistic settings, collected multiple sources of evidence, and used diagrams created by participants to discern decision-making patterns (Lincoln & Guba, 1985; Saldaña & Omasta, 2017).

I reduced psychological distance by conducting interviews and observations in participants' work environments and describing participants' experiences in thick, rich detail (Shenton, 2004). Interaction in a familiar settings increased rapport and allowed for the co-construction of meaning (Lincoln & Guba, 1985).

To increase confidence in the study's findings, I explored multiple realities by collecting information from participants in three diverse districts in the same geographical region and from two informant groups—principals and principal supervisors—responsible for the diffusion of research interventions at the campus level (Yin, 2018). Additionally, I conducted field observations to capture how principals behave in the context of their natural settings.

Throughout the data collection and analysis cycle, debriefing sessions were held to ensure the dependable and accurate interpretation of the data (Bloomberg & Volpe, 2012; Lincoln & Guba, 1985). Debriefing sessions ensured that formulated conclusions and theories were free of personal biases and assumptions (Lincoln & Guba, 1985).

The Researcher's Role

Qualitative research is interpretative in nature (Merriam & Tisdell, 2016). As such, I remained mindful of my ethical obligations and ways in which my beliefs and experiences could potentially influence the way information is processed and interpreted (Merriam & Tisdell, 2016). Prior to conducting interview and observation sessions, I bracketed my own experiences, biases, and assumptions (Merriam & Tisdell, 2016). During interview sessions, I used an audio-recording device to record participants' responses and asked participants to personally illustrate decision-making processes. During observation sessions, I practiced the disciplined recording of field notes (Merriam & Tisdell, 2016), using process diagrams to record behavior as it was happening.

Ethical Considerations

The informed consent form, as prepared in accordance with policies at Abilene Christian University, was distributed to each of the participants for review and signature. Informed consent was obtained from all participants prior to conducting interviews and collecting data. Per regulations established by Abilene Christian University, the informed consent form contained general information about the study, an explanation regarding confidentiality, and the participant's right to withdraw at any time. All participation was voluntary.

I completed the Online Protection of Human Participants Training in January of 2019. To protect the right of human subjects, I maintained anonymity and used pseudonyms and aliases when referring to participants, campuses, and districts.

Assumptions

I assumed that participants provided an accurate and honest account of their experiences. I assumed that participants held working knowledge of state and federal academic expectations

and policies and assumed personal responsibility for improving the conditions of teaching and learning in their schools. Finally, I assumed that data collected from interview and observation sessions would provide sufficient data to answer the stated research questions.

Limitations

The study represents the perspectives of three principals and three principal supervisors. The findings cannot be generalized as the findings represent a small sample population. The study's findings represent my best attempt to accurately describe and interpret district and campus organizational structures. It is important to note that support systems, structures, policies, and procedures vary from district to district, as well as campus to campus. While principal participants in the study were required to have three years of principal experience, experience in itself is not generalizable.

Delimitations

In this study, I explored how key actors perceive the relation between research and practice and asked participants to identify organizational nutriments that facilitate research engagement. This study did not examine the fidelity of research implementation. This scope of the proposed study was limited to the perspectives of participants in the Region 11 service area in Texas and focused on research use in public schools.

Summary

In summary, this chapter provided a detailed description of the study's methodology. A within-case analysis of South Central Independent School District (a pseudonym), is provided in Chapter 4. Within-case analyses of North Central Independent School District (a pseudonym) and North East Independent School District (a pseudonym) are provided in Chapters 5 and 6,

respectively. A comparative analysis is presented in Chapter 7, and Chapter 8 presents a summary, conclusions, implications, and recommendations.

Chapter 4: Results South Central Independent School District

South Central Independent School District (SCISD), a pseudonym assigned to one of the three districts selected to participate in this study, consists of 23 campuses and includes ten elementary schools, four intermediate schools, three middle schools, two ninth grade schools, two high schools, an alternative learning center, and a career and technology center. The major-suburban district—located in North Texas—spans 58 square miles and employs more than 1,800 employees. The district's territory stretches across farmland, family and commercial ranches, and city and suburban developments.

District Population

The more than 15,000 students enrolled in SCISD represent a diversified student body. Forty-three percent of students are African American, 31% of students are Hispanic, and 17% of students are White. The district is home to the largest Section Eight housing unit in North Texas; more than half of registered students are classified as economically disadvantaged and qualify for the free or reduced lunch program. Eleven percent of students receive special education services, and 15% of students receive bilingual-ESL services.

Fifty-four percent of the teachers employed by SCISD have five or fewer years of teaching experience. In 2017, the districts' teacher turnover rate was approximately 22%—slightly above the 16.6% rate reported in the southern regions of the United States (Carver-Thomas & Darling-Hammond, 2017). In 2018, the average teacher salary in SCISD was $58,000; approximately one-third of classroom teachers hold an advanced degree.

Participants

SCISD met the required criteria as a major-suburban district. The Executive Director of Secondary Schools agreed to participate in the study and identified one secondary principal who

met the required criteria. After receiving an overview of the study, both parties agreed to participate and verified that no additional review beyond the existing Internal Review Board approval was necessary.

In preparation for interview and observation sessions, I assigned pseudonyms to each of the study's participants (see Table 1) and obtained informed consent. Mr. Williams (a pseudonym) is employed as a secondary principal in SCISD and has three years of experience as a campus principal. Prior to his present assignment as a campus principal, Williams served six years as a middle-school assistant principal and three years as an intermediate classroom teacher. Ms. Baker (a pseudonym) is employed as the Executive Director of Secondary School Leadership and serves as one of two principal appraisers for SCISD. Prior to assuming her present position, Baker served as a campus principal, assistant principal, high-school coach, and secondary teacher.

Table 1

South Central Independent School District Pseudonyms

Participant role	Number of participants per role	Participant pseudonyms
Secondary Principal	1	Mr. Williams
Principal Appraiser: Executive Director of Secondary Campus Leadership	1	Ms. Baker

Perceptions Related to Teacher Quality and Retention

I began interviews by posing broad questions that would later be used to scaffold a more extensive exploration of Research Question 1—How do principals and principal appraisers perceive the relationship between research and practice? When asked about the importance of teacher quality and retention, both the campus principal and the principal's appraiser responded

that teacher quality and retention are critical to student success, contingent upon effective hiring and placement practices, and one of the most important tasks leaders assume:

> Hiring the right people, knowing what you are looking for, what your vision is, and knowing how to connect teachers to students and to your culture, is critical. Then, you have to retain those teachers because your success as a leader is contingent upon teacher quality (Williams, Principal).

> Both [teacher quality and retention] are very important and in some ways critical to student success. Hiring the right person, and positioning them in the right seat on the bus, is one of the most important jobs we have as leaders (Baker, Principal Appraiser).

When asked to describe what, if any, concerns participants had about teacher quality and retention, the principal and principal appraiser provided unique responses. The principal focused primarily on turnover trends and failed institutional efforts:

> [Teacher quality and retention] are a huge concern for me, but the profession has a history of complacency— to the extent that [turnover] is normalized. We are losing teachers within the teacher's first five years in the classroom. A third of our teachers are leaving. I have to retain highly qualified teachers. A lot of the best teachers are moving out of the classroom to pursue leadership roles. That's hard too. Attrition occurs outside and inside the profession.

The principal appraiser focused on the importance of establishing common language, transparency, and metrics:

> Quality is difficult to define and it is difficult to gain consensus about quality. You have to define it for the organization and be clear about it…make it transparent and tangible. Everyone in the organization has to use the same language and have a way to measure it.

The Decision-Making Process

To explore Research Question 2— How do principals gather, interpret, and use research to inform decision-making and action taking?—and Research Question 3—How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?—I instructed participants to generate a list of leadership

decisions principals make that affect teacher quality and teacher retention. The principal and the principal's appraiser recorded the following information (see Table 2).

Table 2

South Central Independent School District Leadership Decisions

Principal: Mr. Williams	Principal Appraiser: Ms. Baker
Teambuilding (x) Instructional norms, practices & focus (√) Facilitation of PLCs (x) Observation protocols (define performance goals) (√) Performance management & development (√)	Professional development (√) Teaching assignments (x) Frequency of contact (√) (observations and conferences) Strengths/areas of growth (√) Autonomy vs guidance (x) Measure and monitor impact on student performance (x)

Note: X represents a unique field; √ represents congruence

Although participants' lists contained unique descriptors, both the principal and the principal appraiser referenced decisions related to: (a) performance management; (b) personnel development; (c) observation and feedback; and the (d) establishment of instructional norms. Additionally, the principal appraiser included decision-making activities such as teaching assignments, impact monitoring, and the level of autonomy versus guidance a principal provides. The principal included decision-making activities such as the facilitation of PLCs and teambuilding.

When asked to select a decision-making activity from the list and construct a diagram to illustrate the process principals use to make or guide leadership decisions, the principal and principal appraiser both elected to elaborate on teacher development. Figure 2 represents the principal's interpretation, and Figure 3 represents the appraiser's interpretation of the decision-

making process.

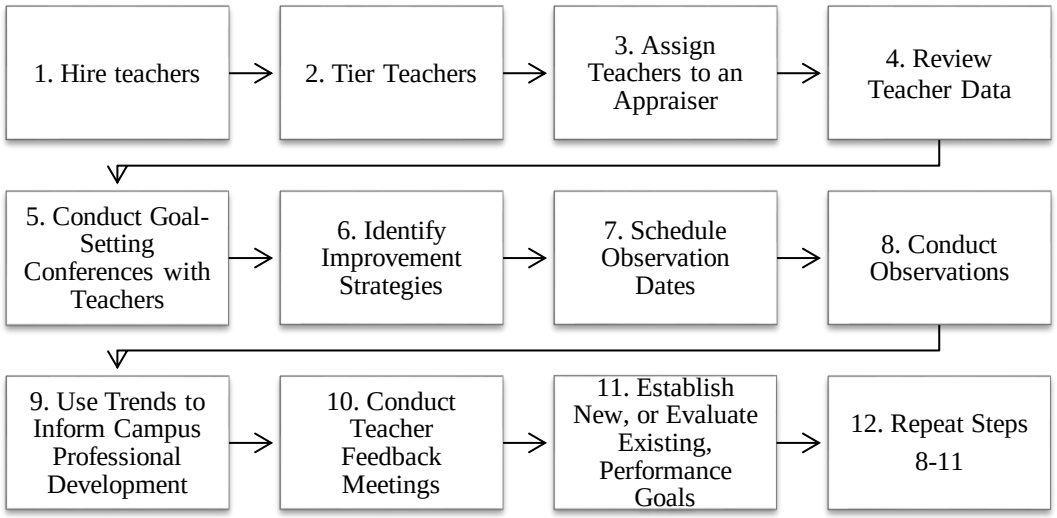

Figure 2. A flowchart of principal Williams' decision-making process: Teacher performance and development.

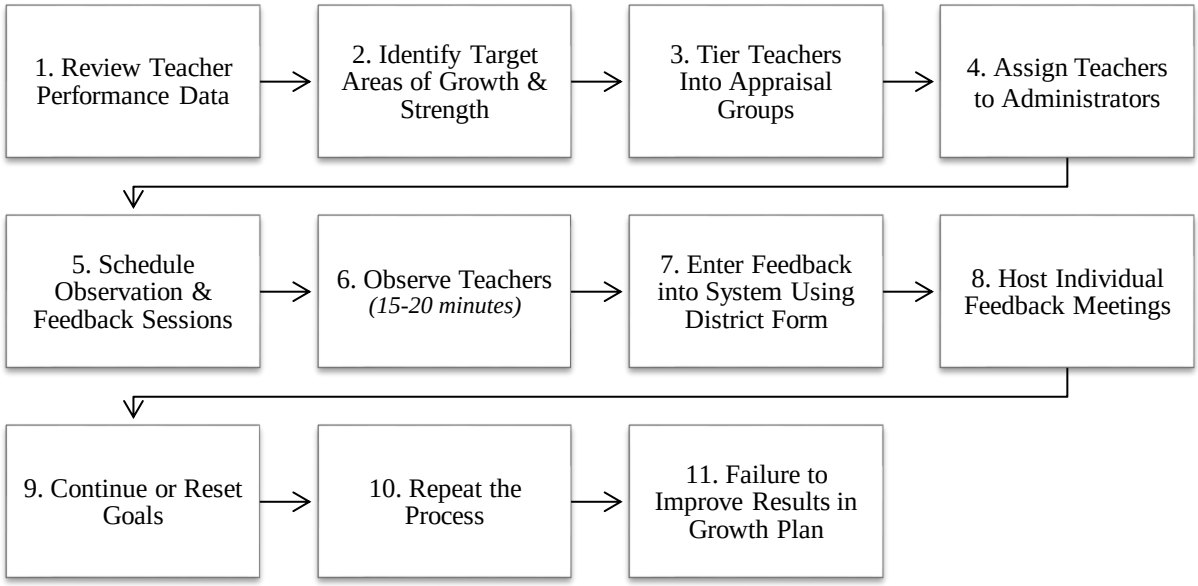

Figure 3. A flowchart of appraiser Baker's perception of principals' decision-making process: Teacher performance and development.

I noted a great deal of congruence between participants' diagrams. Both the principal and the principal's appraiser denoted: (a) use of performance data; (b) tiering teachers into appraisal

groups; (c) strategically assigning appraisal groups to campus administrators; and (d) use of an observation and feedback cycle to develop the capacity of classroom teachers. Whereas the principal stressed the importance of precursory activities such as effective hiring practices and use of teacher conferences to establish professional development goals, the principal appraiser omitted these fields.

A minor difference between process maps was the appraiser's elaboration of how observation data would potentially be used to prompt formation of a formalized improvement plan or termination. Additionally, the principal appraiser explained that she questioned the fidelity with which steps 4 and 8 (see Figure 3) are carried out, as "principals often neglect this step due to time." Nonetheless, both parties described a decision-making cycle in which the principal: (a) scans the environment, i.e., reviews data and performance trends, to identify gaps; (b) develops a strategic plan of action; (c) aligns time and managerial resources to support the plan of action; (d) monitors and provides feedback about the plan; and (e) revises the plan as part of a continuous improvement cycle.

Motivation. To determine the factors that energize and inspire behavior, I pointed to the principal's decision-making diagram and asked the principal to describe what prompted the decision-making process. The principal shared that the process was precipitated by felt need and perceived congruence, and that opportunities to observe successful practices from trusted colleagues further influenced his decision-making:

> Some of my practices came from other principals who've been successful…things I've seen at conferences…in presentations both at the regional level and state level. If I like what I hear and see, and if it matches the culture of my school and my campus needs, I go back to research it even more and figure out how to use it—adapt it to meet my own needs.

Research use. In response to my request to denote where, if at all, research is used to inform leadership decision-making, the principal and principal appraiser edited process maps to reflect the use of research. The principal bracketed steps 5 through 11 (see Figure 2) to indicate the use of research during the observation and feedback cycle:

> I gathered most of the research through word of mouth. Research informed the last steps in my diagram. The research told me to meet with teachers individually, and then taught me to coach teachers and provide ongoing, continuous feedback. I use a variety of books and literature to provide feedback like *Leverage Leadership* and *Never Underestimate Your Teachers*. I'm also getting my doctorate and I'm exposed to a lot of research. I've read about the importance of feedback and it continues to reinforce my practices.

I probed the principal to expound upon the sources—*Leverage Leadership* and *Never Underestimate Your Teachers*—that influenced his decision-making. The principal shared that a trusted mentor outside the organization exposed him to these books, met with him to discuss the books, demonstrated the process, and provided some guidance about implementation. A year later, SCISD named a new superintendent who publicly endorsed the literature, which compelled Williams to revisit and ultimately implement with greater fidelity and volition its principles.

Unlike the principal who bracketed a series of steps in the decision-making process, the principal appraiser drew a circle around the entire process map, indicating her perception that research informs principals' entire decision-making process. The principal appraiser went on to clarify, and in some ways contradict, this position:

> [Principals] do not necessarily use formal research, but some use literature such as *Leverage Leadership*, to tier their teachers and to inform how they schedule observation and feedback sessions. At the beginning of the year, our Curriculum and Instruction Department provides data to principals, which is helpful when tiering teachers. Sometimes we push the literature, but principals are not necessarily immersed in it. A missing component is that we don't often refer back to the literature during our leadership meetings. Research generally happens three times in the year—beginning, middle, and end of year during leadership meetings. Principals dive into the literature on their own as well, but it may or may not be connected to district priorities.

Principal observation. To obtain a clearer picture of the process Mr. Williams uses to gather information and discern a course of action, I conducted a face-to-face observation in the principal's natural work setting. Upon my arrival, Mr. Williams informed me that I would be observing the process he uses to create agendas for beginning of the year teacher in-service. The observation took place in late July—two weeks prior to teacher in-service.

The principal opened what he referred to as an *inspiration file*, a manila folder that contained notes and transcripts collected over the course of the summer. A closer examination of the file revealed a transcript to a Technology, Entertainment, and Design (TED) Talk, a church bulletin, a few handwritten sticky notes, a number of conference handouts, and personal reminders. In addition to collecting these artifacts, the principal shared that he conducted an informal needs assessment of staff and students to identify program and performance deficiencies.

The principal opened a template created by the district to support the planning and standardization of teacher in-service training using Microsoft Word on his laptop. The template contained columns representing each of the upcoming in-service days and rows representing blocks of available planning time from 8:00 a.m. to 3:30 p.m. Some blocks of time were shaded gray—representing district events such as convocation and district professional development sessions—while others were shaded white—representing blocks of time dedicated to campus planning and development.

After examining the district's template, the principal opened agendas he created the previous year and conducted a quick comparison. Williams then made a list on the whiteboard in his office —inspired by previous years' agendas and his inspiration file—of all the topics he would need to cover with staff prior to the start of school. Additionally, Williams listed several

instructional strategies he planned to revisit or introduce. Once listed, the principal began clustering the topics, using markers and abbreviations, to determine how to work within the constraints of the master planning schedule and how to best allocate available time.

The principal sat down at the conference table in his office and proceeded to fill in the district template as if completing a puzzle and determining how to fit each clustered priority into an available time slot. Williams spent approximately fifteen minutes organizing and reorganizing units of time. Once satisfied with the general layout of the agendas, Williams opened Google Slides and began constructing a presentation to accompany his agendas. He quickly opened a series of slides and labeled each to correspond to session priorities, i.e., school-wide procedures, PLC procedures, and instructional strategies.

Referring back to his inspiration file, the principal then began building slides to capture messages and notes collected over the summer. The principal shared that after listening to a sermon at church, during which the preacher compared effective organizations and communities to Lego blocks, he felt inspired to use the metaphor as a launching point for teacher in-service. Williams quoted Sinek's work, *Start with Why*, and stressed the importance of establishing vision and purpose. He then opened a slide, searched for a Lego picture using Google, and dragged the image into the presentation file. The principal shared that he would later return to this slide and add a story he pulled from a book titled *Toybox Leadership*. This story and image would be used as an opening act to set the stage for the remaining in-service activities.

Skipping around in his presentation outline, the principal then located a section in the presentation he would use to introduce new instructional strategies. The principal pulled a TED transcript from his inspiration file and quickly reviewed his notes. Williams then hyperlinked the corresponding TED video into his presentation to serve as an activation point for the session he

designated to instructional strategies. After adding a few personal notes and reminders to the presentation, the principal placed the transcript back into the file. This pattern of action continued until the principal captured each of the notes and handouts in his inspiration file.

The principal then paused his planning efforts to explain next steps to me. Williams opened the district's back-to-school template and explained that at a later date, he would assign sessions and activities to members of the leadership team. When asked about the factors he considered while making such assignments, the principal explained that he would assign the most important sessions—such as those related to instruction and school culture—to members based on strengths and expertise, and would ask other members of the leadership team to volunteer for and provide deeper input on the remaining sessions. Williams shared that while he delegates and exercises a great deal of shared leadership, there are certain topics—such as vision setting—he reserves for himself. Figure 4 represents my best interpretation of the principal's decision-making process.

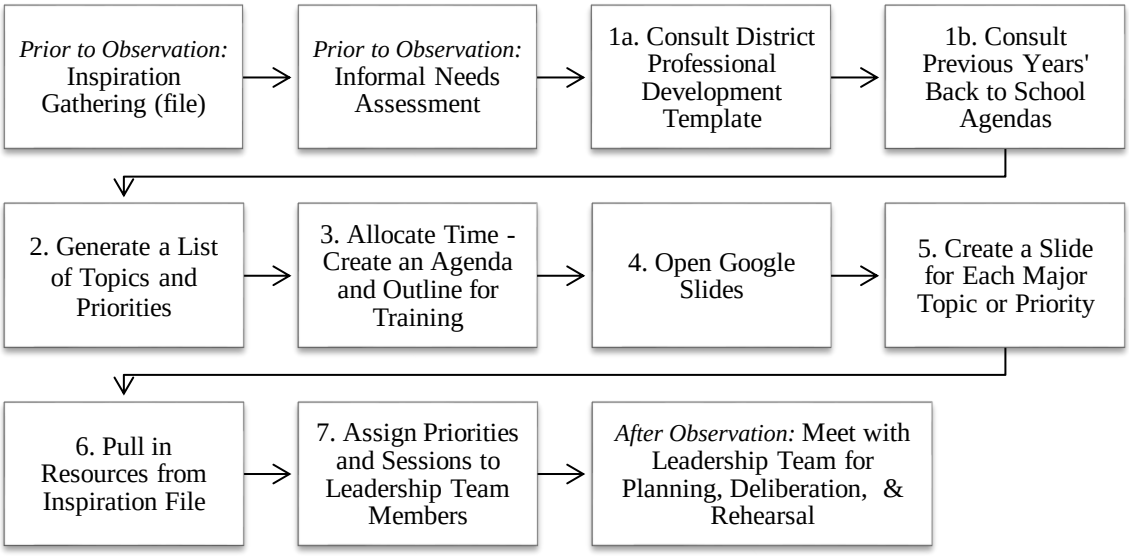

Figure 4. A flowchart of the observation of Principal Williams' decision-making process: Back to school professional development planning.

Access to Research

To explore Research Questions 2 and 3 in greater depth, I asked both the campus principal and the principal appraiser to describe the kind of research principals have access to and how principals typically access research. Williams described the knowledge acquisition process as a casual sequence in which

> A kind of leads to B, and B kind of leads to C. Once you start reading into one subject you start thinking, I think I really want to read a little bit more about that and you look into the references, or you look up a video on YouTube associated with that. You kind of Google it and it's almost like chain of events of that leads to different researchers or different information and then [leads you] to a specific article.

Williams further noted that while the district occasionally sponsors a book study, the majority of his acquisition comes from (a) self-initiated book studies, (b) articles or materials shared by peers and colleagues, and (c) professional development sessions such as conferences and university coursework. Williams elaborated:

> Sometimes principals will send each other information on various topics. High school principals might send information to other high school principals, or middle school principals might send information to other middle school principals—saying hey this is working or hey check out this article see if it's something you can use at your school. And so I think [research use] happens, but it doesn't happen as much you'd want it to. It's not a full blown principal PLC but it happens just naturally and organically. [Principals] stumble into [the] research [and] best practices.

The principal appraiser confirmed the absence of a formal mechanism for sharing research in the district:

> [Research dissemination] is not really district initiated. Principals mainly find [research] on their own, or share it with each other, based on their own needs and interests. Some read books and participate in book studies, which may or may not be related to district initiatives.

While the district may lack a formal mechanism for sharing research, the principal stressed the importance of research use nonetheless:

> Teacher quality, a lot of times, leads to teacher retention. When [a teacher] feels adequate, and even [more] proficient or beyond proficient at their job, they're much more likely to stay than if they feel overwhelmed or underprepared or unsuccessful. The principal's goal, if nothing else, should be to be an instructional leader. If they're not committed to being the most well versed leader on the campus, then who is? The expectation should be, that the principal is the instructional leader thereby, it takes a lot of research.

Research-Practice Gap: Attributes and Perceptions

After exploring the process through which principals gather, interpret, and use research to inform leadership decisions, I shifted the focus of the conversation to explore participants' impressions of the research-practice gap. Both the principal and the principal appraiser confirmed the existence of a research-practice gap. Williams attributed the gap to

- a lack of time,
- the pace of the principal's schedule,
- the constant sense of urgency,
- the principal's lack of experience or skill,
- ambivalence, and
- misaligned priorities

and suggested that tending to what is urgent or familiar is often prioritized over behaviors that advance the organization's mission, vision, values, and goals. The principal elaborated:

> For whatever reason [principals] just don't look at the research. Whether it's they don't have time or don't want to take the time, I don't know. Maybe it is an attitude that once you become a principal there's no need to sharpen your saw. Unfortunately, a lot of the best assistant principals get hired as principals and so they still do those tasks that they were really good at. They were really good at running the building so they continue to run the building versus lead the building. Ultimately, they get swallowed up in the black hole of time, paying attention to the wrong things or things that feel comfortable or familiar to them. I think that's the main reason [for the gap between research and practice], but I think the second reason is misaligned priorities, and third reason is some of them don't know, or weren't prepared to do, any better.

Like Williams, Baker attributed the research-practice gap to a prevailing sense of urgency, but Baker cited a lack of resources and overreliance on past successes rather than role congruence and promotion standards:

> The pace is so quick, the needs are so great, and the resources are so slim. [We] have to do what we have to do right now, in this moment for this kid, and [we may not] even have access to [the research] when it happens. Time is a big barrier. [The principal's] own experiences also shape behavior; past successes can be a downfall to future successes because what works in one setting doesn't always work in another.

Although Baker previously confirmed the presence of a research-to-practice gap, she later provided divergent remarks when asked to evaluate the extent to which principals are sharing research-based practices with teachers and the degree to which principals are fostering dialogue about research trends and recommendations—an expectation set forth by both the state and the local school district:

> I think [sharing research-based practices and fostering dialogue about research trends] is happening at a high level. Our campuses focus on AVID (i.e., advancement via individual determination) strategies and college career readiness practices. I'm not sure [principals] make the connection to the research.

Research-Practice Gap: Experiences, Impediments, and Facilitators

During the second half of the interview, I transitioned the conversation to investigate participants' perceptions related to Research Question 4—What organizational conditions promote and impede research engagement? When asked to describe if and how he had experienced the research-to-practice gap, Williams replied,

> I get swallowed up in the same time conundrum that every other principal does because whether we like it or not, [there are] things [that] present themselves as priorities when they shouldn't and you know they shouldn't be [priorities]. It's the junk food of principal education; you know you shouldn't do it but you do it anyways because it's there and it's easy, and it feels good at the time.

Williams moved beyond his own admission of ineffective time and priority management to identify a number of organizational impediments that prevent research engagement, such as the absence of dedicated funds for professional development, lack of access to experts, and absence of organizational success stories. Additionally, Williams emphasized the critical role of leadership:

> The person leading principals must know the right processes, procedures, and experiences to enrich the principal's experience. I think there could be many districts where the person in charge of principals may not be an instructional or organizational leader and that is problematic.

When prompted to describe the organizational supports that would facilitate his consultation and use of research, Williams recommended that districts

- clarify vision statements to signal the importance of continuous improvement,
- restructure leadership meeting agendas to emphasize research exploration,
- establish peer networks,
- provide dedicated time to explore and discuss research,
- devise a systematic process to review research use,
- over communicate and use stories to signal the importance of research use,
- separate the responsibilities for building management from those of instructional leadership,
- provide ongoing leadership development and coaching, and
- ensure principals have access to supervisors who are knowledgeable of and able to translate research-based practices.

Whereas Williams used a metaphor of junk food, Baker used a car metaphor to explain the distance between research and practice:

> [Principals] may know what the research states, but they cannot let their foot off the gas. They do not have time to bring others on board because they are accountable to a scoreboard and the pressure to produce. The need to produce quickly sometimes trumps what research says or what a [teacher] needs.

Baker elaborated on what she believes impedes research engagement to cite a lack of scheduled, dedicated time to review research, and an overwhelming sense of urgency. She suggested that organizations

- clarify what research the district will pay attention to,
- restructure leadership meetings to emphasize research use,
- ensure principals have access to research, and
- provide decision-making trees that highlight the effective use of research in the decision-making process.

Within-Case Discussion

The in-depth exploration of how central actors in SCISD perceive the relationship between research and practice, use research to inform practice, and of the organizational factors that promote and impede research engagement revealed that although research is valued, research is not used consistently to inform policy, practice, and leadership decisions. While Mr. Williams displayed intention and willingness to employ evidence whenever possible, he may lack the capacity to do so.

Williams' decision-making path—which appears to be thoughtful, indicative of the continuous improvement cycle, and responsive to multiple sets of data—is influenced by both internal and external cues. Specifically, Williams is motivated by conference sessions, sermon notes, district data reports, direct observation and feedback, articles, media messages, district templates, superintendent messages, and peer networks. While influenced by internal and

external cues, the principal's decision-making occurs mostly in isolation, with the principal as the lead decision-maker—who may from time to time engage in peer networks, share and consume articles, or draw inspiration from a published body of knowledge. Williams admitted that research engagement does not occur as frequently as it should.

Although principals may diffuse instructional best practices as derived from programs such as AVID to teachers at a "high level," the district lacks a formal mechanism for diffusing practices to principals, according to Baker. Mr. Williams acknowledged that while he occasionally participates in informal learning networks during the school day, the majority of his learning occurs outside the system and outside the regular school day—during conferences, as part of doctoral coursework, and when imposed upon him by a trusted mentor.

While a formal, routinized mechanism for sharing, discussing, synthesizing, and reflecting on research at the principal level does not exist, I noted several sources that influenced the principal's decision-making, including *Leverage Leadership*, *Never Underestimate Your Teachers*, *Start With Why*, religious sermon notes, Google, conference PowerPoint presentations, data summary tables, and a TED Transcript. An informal and cursory assessment of these sources revealed that the principal is compelled to use and respond to messages that are (a) codified—contain a set of actionable principles; (b) shared by someone else inside or outside the organization; (c) endorsed by an advisor or supervisor; (d) written in plain, straightforward language that may or may not be directly tied to a systematic investigation; (e) supported by images and graphics; and (f) presented in summary formation.

Several conditions within the organization may force the principal to reconcile competing priorities and tend to what is urgent versus what is important. Specifically, participants mentioned lack of time and resources, the failure to prioritize effectively, the pace of a

principal's schedule, a lack of training or motivation, an absence of opportunities to critically examine and reflect on research, and lack of access to a learning leader. In response to these impediments, the principal and appraiser suggested that organizations clarify learning goals and objectives, provide and routinize leadership support, communicate and clarify the district's vision as well as what literature its professionals will pay attention to, restructure meetings to emphasize and allow for research engagement, and revise the duties and responsibilities assigned to the principal.

Finally, a note-worthy premise emerged. Mr. Williams suggested that current promotion and succession practices—which mandate that to be a principal one must have previously served as an assistant principal—may actually impede research engagement. The principal asserted that the "best assistant principals get hired as principals" and inadvertently continue to prioritize managerial tasks over direction-setting and instructional leadership activities.

Summary

Within-case analyses of North Central ISD and North East ISD are provided in Chapters 5 and 6, respectively. A comparative analysis that includes all three districts selected for this study is provided in Chapter 7. Chapter 8 includes a summary, conclusions, implications for organizations, and recommendations for further research.

Chapter 5: Results North Central Independent School District

North Central Independent School District (NCISD), a pseudonym assigned to one of the three districts selected to participate in this study, is a single campus school district serving grades K-12. The rural district—located in North Texas—spans 155 square miles and services other small communities. The district's agriculture territory stretches across farmland, residential communities, and family operated ranches.

Population

The less-than 500 students enrolled in NCISD represent a relatively homogeneous student body. One percent of students are African American, 12% of students are Hispanic, and 84% of students are White. Thirty-two percent of registered students are classified as economically disadvantaged and qualify for the free or reduced lunch program. Nine percent of students receive special education services, and 2% of students receive bilingual-ESL services.

Twenty percent of the 40 teachers employed by NCISD have five or fewer years of teaching experience, and the average teacher has fourteen years of experience. In 2017, the district's teacher turnover rate was approximately 15.5%—slightly below the 16.6% rate reported in the southern regions of the United States (Carver-Thomas & Darling-Hammond, 2017). The average teacher salary in NCISD is $45,800, and 23% of teachers hold an advanced degree.

Participants

NCISD met the required criteria as a rural district. The superintendent agreed to participate in the study and identified a principal who met the required criteria. After receiving a brief overview of the study, both parties agreed to participate and verified that no additional review beyond the existing Internal Review Board approval was necessary.

In preparation for interview and observation sessions, I assigned pseudonyms to each of the study's participants (see Table 3) and obtained informed consent. Mr. James (a pseudonym) is employed as a principal in NCISD and has over ten years of administrative experience in rural, major-suburban, and central-city districts. Mr. Thomas (a pseudonym) is employed as the superintendent of schools and prior to assuming his present position served as a campus principal, coach, and secondary teacher.

Table 3

North Central Independent School District Pseudonyms

Participant role	Number of participants per role	Participant pseudonyms
Principal	1	Mr. James
Superintendent & Principal Appraiser	1	Mr. Thomas

Perceptions Related to Teacher Quality and Retention

I began the interview by posing broad questions that would later be used to scaffold a more extensive exploration of Research Question 1—How do principals and principal appraisers perceive the relationship between research and practice? When asked about the importance of teacher quality and retention, both the campus principal and principal's appraiser confirmed the importance of teacher quality and retention. When asked to describe what, if any, concerns participants had about teacher quality and retention, the principal and principal appraiser provided unique responses. The principal focused primarily on concerns related to recruitment and retention:

> I think [statewide] getting teachers to come into the profession right now is a huge concern. I think that we're struggling to get people to enter the profession of education. I think unless we start seeing salaries being competitive to business markets, we're going to really struggle with public [education].

The principal appraiser echoed James' concerns, but highlighted specific challenges experienced in rural communities:

> Teacher quality and retention is obviously very important. For us, in a smaller district, and especially on the outskirts of where we are, a lot of times we feel like we're a farm club for bigger districts. A lot of times we'll get rookies and we train them up, and that's both costly in time and money. And so, ideally, we would love to get teachers kind of in that five to fifteen year window because they've got some experience—they've been trained up, potentially.

The Decision-Making Process

To explore Research Question 2— How do principals gather, interpret, and use research to inform decision-making and action taking?—and Research Question 3—How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?—I instructed participants to generate a list of leadership decisions principals make that affect teacher quality and teacher retention. The principal and the principal's appraiser recorded the information in Table 4.

Although participants' lists contained distinct descriptors, both the principal and the principal appraiser referenced decisions related to staffing and scheduling, teacher support and development, and praise and recognition. The principal included unique activities such as teacher conversations and welfare checks, snack days, and creating a culture that supports autonomy and shared decision-making. The principal appraiser included unique activities such as program adoption and support, discipline, and motivation.

Table 4

North Central Independent School District Leadership Decisions

Principal: Mr. James	Principal Appraiser: Mr. Thomas
Conversations (e.g., direction setting) (*X*)	Staffing and scheduling (√)
[Teacher] Welfare checks (*X*)	Supporting and mentoring teachers (√)
Snack days (*X*)	Adoption and support of programs and
Class size (√)	initiatives (*X*)
Teacher autonomy (*X*)	Capacity building (√)
How to share decision-making (*X*)	Discipline (*X*)
Teacher support and development (√)	Acknowledge and recognize Staff (√)
Praise and recognition (√)	How to motivate staff (*X*)

Note: X represents a unique field; √ represents congruence

When asked to select a decision-making activity from the list and construct a process diagram to illustrate the process principals use to make or guide leadership decisions, the principal selected the topic of conversations—which I will refer to as direction setting (see Figure 5)—and the principal appraiser selected the topic of staffing and scheduling (see Figure 6).

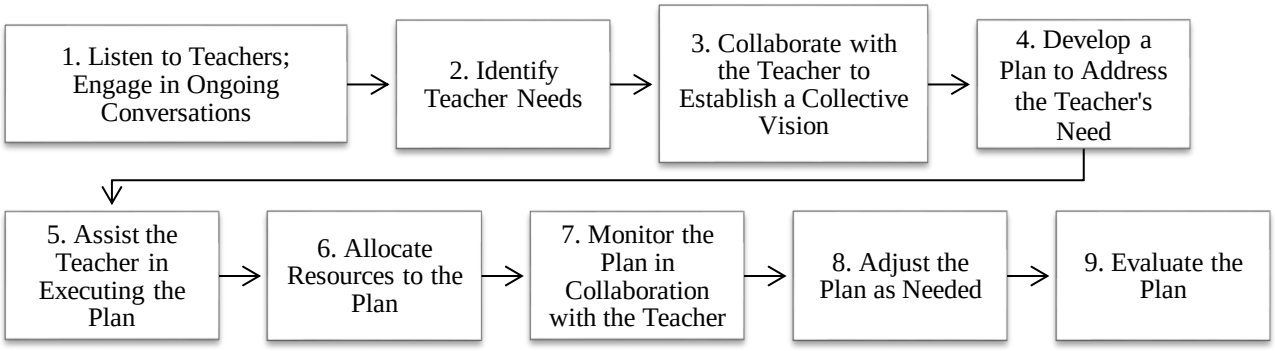

Figure 5. A flowchart of principal James' decision-making process: Direction setting.

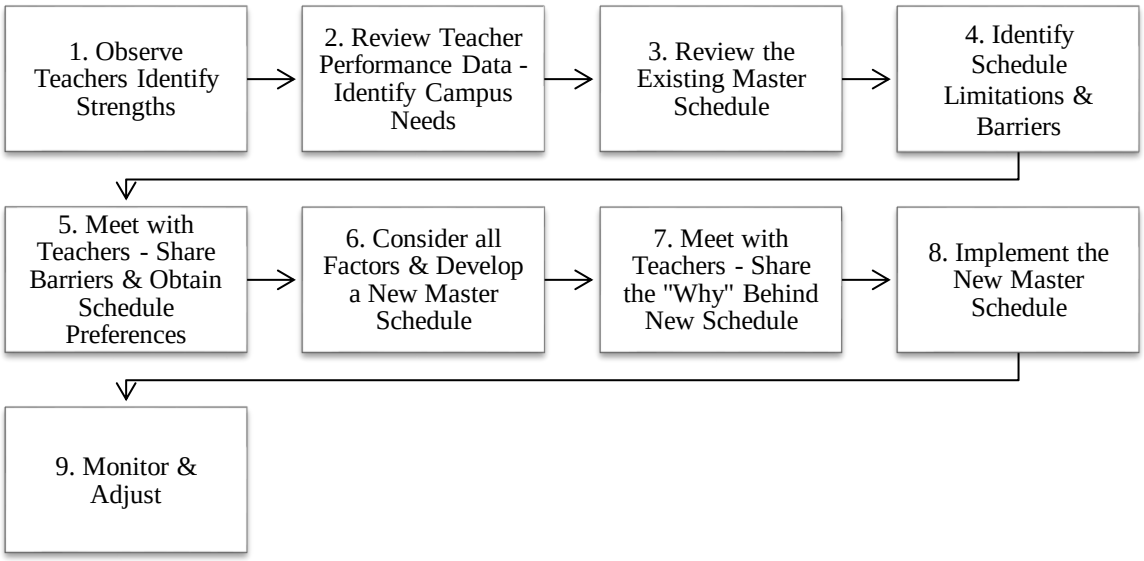

Figure 6. A flowchart of principal Appraiser Thomas' perception of the decision-making process: Staffing and scheduling.

While James and Thomas illustrated diverse decision-making activities, I noted that both the principal and principal appraiser described (a) scanning the environment, (b) collaborating with stakeholders to identify needs, (c) developing a strategic plan of action and allocating resources, (d) monitoring the plan of action, and (e) adjusting the plan based on performance cues.

Motivation. To tap into the motivational factors influencing decision-making, I pointed to the principal's decision-making diagram and asked the principal to describe what stimulated the decision-making progression. The principal shared that his decision-making is influenced by content he was exposed to as doctoral student, such *School Leadership that Works*, which emphasized the connection between school culture and student achievement. According to the principal, "Building a culture of rapport and trust is hard to quantify, but it is essential to the way I make decisions and is crucial to academic performance."

Research use. In response to the request to denote where, if at all, in the process research is used to inform leadership decision-making, the principal and principal appraiser edited process maps to reflect the use of research. The principal replied:

> I'd like to place a bubble around the entire process. While writing my dissertation, I studied Marzano's work on how leadership affects student learning. A good, solid culture is built on trust, transparency, and openness to teacher input and ideas.

When asked to elaborate on the type of research that influences his decision-making, James shared:

> [I gather research] when I am at different conferences. Oddly enough, I'm getting more out of TCA—a tech driven conference—than I am principal conferences. That's where I'm getting a lot of my drive, where our current practices are coming from. Social media is another way I learn things. You can't always depend on social media to be reliable, I know that, but it's been helpful to me. Sometimes I'll start a discussion and get a lot of ideas about what a topic or solution would look like at the campus level.

Similar to the principal, the principal appraiser drew a bubble around his interpretation of the decision-making diagram and responded:

> Research influences everything principals do. Maybe principals don't realize it, I mean I don't see them slowing down to read the research and then figure out how to implement it, but I do think the research influences their behaviors and beliefs.

Principal observation. To obtain a clearer picture of the process Mr. James uses to gather information and discern a course of action, I conducted a face-to-face observation in the principal's natural work setting. Upon my arrival, Mr. James informed me that I would be observing the process he uses to conduct an informal campus needs assessment. The observation took place in late July, prior to teacher in-service and campus leadership team planning sessions.

The principal shared that his practice at the beginning of the year is to conduct an informal needs assessment. He reiterated his belief that teachers should have input into campus decisions and that a strong campus culture results in increased student achievement. Inspired by

a series of questions he was introduced to while attending Baldrige Continuous Improvement Training in another district, the principal conducted an online search for sample questions.

The principal toggled between several websites to compare and contrast questions. Disappointed in some of the results, the principal refined his search terms, which yielded more satisfactory results. Once he identified questions that matched his objective, he copied and pasted the questions into a Word document. The process of searching for questions took approximately fifteen minutes.

The principal then began narrowing the list of questions, synthesizing questions, and rewording questions to capture his intentions. Once revised, the principal accessed Google Forms, selected a template, and began constructing a needs assessment survey. Questions included in the survey asked participants to explain how able they were to foster a positive learning environment, implement effective instructional strategies, and plan rigorous and effective lessons. Additionally, the principal asked participants to elaborate on professional goals for the year, provide specific feedback related to leadership support, and to describe ways in which the leadership team could improve school policies and practices.

The formation of the survey took approximately twenty minutes, whereupon the principal constructed an email to explain the intent of the survey, the timeframe for completion, and how results of the survey would be used to set direction and allocate resources. At the close of the collection cycle, the principal said he would analyze the data and share the results with his leadership team—a dean of instruction and a few appointed teachers and campus interns. According to the principal, this team would then “follow the big themes” and create a plan to address teacher needs and feedback.

Culture improvement efforts and teacher appreciation events would then be added to the campus calendar and the principal's calendar, providing James an opportunity to informally observe these efforts and monitor implementation. Furthermore, the principal shared that he and the leadership team would evaluate and revise the plan as needed throughout the school year. Figure 7 represents my best attempt to capture the principal's decision-making process.

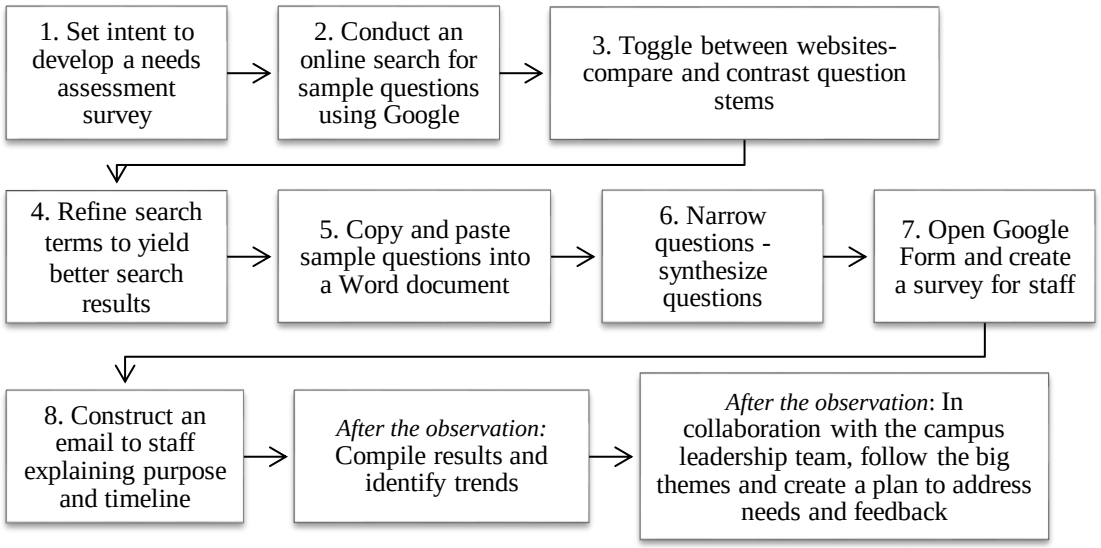

Figure 7. A flowchart of the observation of Principal James' decision-making process: Campus needs assessment.

Access to Research

To explore Research Questions 2 and 3 in in greater depth, I asked both the campus principal and the principal appraiser to describe the kind of research principals have access to and how principals typically access research. Both the principal and principal appraiser suggested that principals pull knowledge not from a district-initiated database or system, but from social media, professional development sessions, and self-selected or peer-recommended books. During interview sessions, three specific works were referenced—*Start with Why*, *Drive*, and *School Leadership that Works*. While the principal appraiser makes an effort to "pour into"

his principal and "elevate the conversations to focus on instruction and research," he has found it difficult to centralize professional development.

The district may lack a formal mechanism for sharing research, but the principal stressed the importance of research nonetheless:

> Research use is very important. I mean we have to stay informed of the latest trends and best practices if we are going to be successful in our business. Our teachers are depending on us to bring those practices to them and [research] influences the way we lead and build culture.

The principal appraiser spoke both affirmatively and cautiously about research engagement:

> [Consulting the research] is very important, but you've also got to find a balance. You can't be living in the clouds and in the research all the time because that will eat you up [administratively]. One of the greatest challenges a middle manager has is figuring out how to balance it all.

Research-Practice Gap: Perceptions and Impediments

When I advanced the line of conversation to explore participants' perceptions, both the principal and the principal appraiser acknowledged the existence of a research-practice gap. James attributed the gap to

- bureaucracy,
- the size of the district,
- the district's organizational structure,
- a principal's workload,
- district initiatives (i.e., number of initiatives introduced by central office),
- district noise (i.e., competing priorities and requests), and
- a lack of district openness to research and innovation.

James reflected on his collective experiences in large and rural districts and suggested that in larger districts alignment and compliance are valued more than innovation:

> The larger the district, the more procedures have to be in place. If you have four math teachers on your campus, they have to align their curriculum and grading policies. In smaller districts, teachers have more latitude and feel more comfortable to [deviate] and experiment with new practices.

The principal clarified:

> In a large district, you are at the mercy of the wind that blows. It's not necessarily bad, but it's the product of a bigger school system. When I was in [a larger district] we went through all sorts of initiatives like Baldrige Continuous Improvement and *Fundamental Five* training. All those things were good, but the teachers just received it—they just got the information. Then, the chaos and the noise of the district just took over and not much of it really stuck. In smaller districts like [NCISD] you don't have layers which provides me a more immediate track to the teachers. I'm able to see how [teachers] are doing and provide for their needs without consulting or having to involve central office.

The principal appraiser attributed the gap to

- a lack of training in decision-making processes,
- a lack of time,
- paperwork,
- email and phone calls,
- unfunded mandates,
- discipline,
- a lack of purposeful planning and prioritization,
- mental distractions,
- absence of a good mentor or network, and
- a lack of energy.

Thomas went on to say that while he believes a gap exists between research and practice, he believes the gap is not as wide as it was twenty years ago:

> In the old days, we just did what worked. The [principalship] has changed dramatically. It used to be a manager position—you handled textbooks, student discipline, a little bit of

> paperwork—but you weren't really a leader. You were a manager of things. [Principals] are now expected to support and back up their decisions with data and research.

Prompted to elaborate, Thomas explained:

> I think education [preparation] programs and principal prep programs have also tried to elevate conversations to be more research-based. Some of that is a result of statewide accountability measures, as well as our statewide curriculum and our statewide appraisal system.

In response to the request to evaluate the extent to which principals are sharing research-based practices with teachers and fostering dialogue about research trends and recommendations, Thomas responded:

> I don't think it's happening regularly or systematically and as often as it should. Now it might be happening informally. Gone are the days when principals can say, "I've made this decision that we're going to move you here because I think you should do this." [Principals] can think what [they] want, but they have to be able to back it up with some data and some research to convince [staff] that [they] might know what [they are] talking about. The decision doesn't hold as much weight, and [staff members] are less likely to have trust in the [principal] without the research.

In comparing lists generated by both the principal and the principal appraiser to understand the factors that impede research engagement, I noted several commonalities. Both the principal and the appraiser identified bureaucracy, distractions, and competing priorities or mandates as impediments to research engagement. Whereas James' list included organizational structure, size, and openness, Thomas's list included poor time management and a lack of training and mentorship. James attributed the gap primarily to externally imposed factors, while Thomas referenced both self-imposed and externally imposed factors.

Research-Practice Gap: Facilitators and Recommendations

During the latter portion of the interview, I transitioned the conversation to explore the organizational conditions that would facilitate greater research engagement.

James suggested that districts reduce isolation and promote the formation of learning communities by

- facilitating instructionally focused conversations,
- providing opportunities for peers to learn with and from each other,
- sharing strategies to support the principal's development and growth of others, and
- presenting exemplars of what best practices should look like at the campus level.

James focused on foundational elements of a learning organization, while Thomas focused on decision-making competency and organizational structure:

> I don't think most principals walk in the door with a great decision-making process. I think [they have learned] by screwing stuff up and learning from things that did not go well.

To promote more informed decision-making, Thomas urged organizational leaders to

- reduce the amount of minutiae and the number of managerial tasks assigned to a principal,
- restructure the role of the principal by hiring someone to assume managerial tasks or by assigning the tasks to teachers in the organization as a way to upskill future leaders,
- teach principals the essential components of calendar-blocking,
- slow down the decision-making process and facilitate opportunities for principals to think about decisions and pull in the research,
- give principals permission to pay themselves first (i.e., personal development) and close the door so they can read and engage in ongoing learning and development,
- prioritize the right things to ensure principals spend time on high-leverage activities, and
- facilitate critical thinking and honor divergent thinking.

Within-Case Discussion

The in-depth exploration of how central actors in NCISD perceive the relationship between research and practice, use research to inform practice, and of the organizational factors that promote and impede research engagement revealed that although research is valued, research is not necessarily used consistently or in a strategic manner to inform policy, practice, and leadership decisions. I concluded—taking into account data collected during interview and observation sessions—that while the principal may display intention and willingness to employ evidence whenever possible, the principal may lack the capacity to do so.

The decision-making path—which appears rational and favors the continuous improvement cycle—is influenced primarily by feedback within the system. The principal meets with internal stakeholders to identify needs, establish outcomes, allocate resources, and monitor and evaluate goals. While the principal reported attending and drawing inspiration from conference sessions, social media forums, prior training in Baldrige Continuous Improvement, and his doctoral coursework, it was difficult to distinguish direct lines between specific research interventions and leadership practices. Instead, I noted that research seemed to influence attitudes and beliefs, which thus may influence leadership strategies—in this case, collaborative decision-making.

Despite the absence of a formal, routinized mechanism for sharing, discussing, synthesizing, and reflecting on research, I noted several specific sources that influenced the principal's decision-making or the appraiser's understanding of decision-making—*Start With Why*, *School Leadership that Works*, conference session handouts and presentations, social media forums, and *Drive.* An informal and cursory assessment of these sources revealed the principal in NCISD is compelled to use and respond to messages that (a) are introduced by a trusted

advisor—inside or outside the organization, (b) endorsed by a peer network, (c) are presented using language that is both logical and narrative in nature, (e) are supported by images and graphics, (f) are presented in summary formation, (g) provide practical advice, and (h) address themes relevant to contemporary and educational leaders.

While research engagement is valued by participants, several self-imposed and externally imposed conditions may force the principal to reconcile competing priorities and tend to what is perceived as urgent rather than what is important. Specifically, participants mentioned shortage of time and resources, the failure to prioritize effectively, bureaucracy, and a lack of skill. In response to these impediments, the principal expressed need for social supports—learning networks in which principals learn with and from each other while examining professional exemplars—whereas the principal appraiser expressed need for leadership supports—permission to learn, time management training, and opportunities to slow down decision-making processes to cultivate critical thinking and reflection.

Summary

A within-case analysis of North East ISD is provided in Chapter 6. A comparative analysis that includes all three districts selected for this study is provided in Chapter 7. Chapter 8 includes a summary, conclusions, and recommendations for organizational leaders.

Chapter 6: Results North East Independent School District

North East Independent School District (NEISD), a pseudonym assigned to one of the three districts selected to participate in this study, consists of five campuses—two elementary schools, one intermediate school, one middle school, and one high school. The independent town district located in northeast Texas spans nineteen square miles and employs approximately 375 employees. The district's territory is home to more than fifteen parks, two lakes, and residential and ranch communities.

Population

The less-than 3,000 students enrolled in NEISD represent a diversified, low-socioeconomic student body. Six percent of students are African American, 60% of students are Hispanic, and 30% of students are White. More than 80% of registered students are classified as economically disadvantaged and qualify for the free or reduced lunch program. Eight percent of students receive special education services, and 22% of students receive bilingual-ESL services.

Forty-six percent of the teachers employed by NEISD have five or fewer years of teaching experience. In 2017, the districts' teacher turnover rate was approximately 27%—nine percentage points higher than the 16.6% rate reported in the southern regions of the United States (Carver-Thomas & Darling-Hammond, 2017). The average teacher salary in NEISD is $48,000, and roughly 18% of the teachers hold an advanced degree.

Participants

NEISD met the required criteria as an independent town district. A central office administrator agreed to participate in the study and identified one elementary principal who met the study's criteria. After receiving a brief overview of the study, both parties agreed to

participate and verified that no additional review beyond the existing Internal Review Board approval was necessary.

In preparation for interview and observation sessions, I assigned pseudonyms to each of the study's participants (see Table 5) and obtained informed consent. Ms. Smith (a pseudonym) is employed as an elementary principal and has five years of experience as a campus principal. Prior to her present assignment, Smith served as a principal and assistant principal in a neighboring district in North Texas and as an elementary teacher. Mr. Walters (a pseudonym) is employed as Assistant Superintendent of Schools. Prior to assuming his present position, Walters served as a district office administrator, campus principal, assistant principal, elementary instructional specialist, and elementary teacher.

Table 5

North East Independent School District Pseudonyms

Participant role	Number of participants per role	Participant pseudonyms
Elementary Principal	1	Ms. Smith
Principal Appraiser: Assistant Superintendent of Schools	1	Mr. Walters

Perceptions Related to Teacher Quality and Retention

I began the interview by posing broad questions that would later be used to scaffold a more extensive exploration of Research Question 1—How do principals and principal appraisers perceive the relationship between research and practice? When asked about the importance of teacher quality and retention, the campus principal and appraiser provided diverse perspectives. Smith highlighted the importance of retaining quality, experienced teachers:

> Retaining teachers—especially experienced teachers—is critical. [Veteran] teachers can use their experience as an action-researcher to drive instructional decision-making.

> [They] do not just teach the same lesson for 20 years; they've honed in on where to find the most effective tools and how to present the information.

Walters emphasized the importance of retaining teacher quality, but suggested leadership trumps teacher retention and quality:

> [Teacher quality and retention] are the number two thing. Leadership is [number one]. If you hire good quality teachers in the classroom, that's where the rubber meets the road. And I feel like they can make a difference for kids without a good leader. But, at some point, there's going to flailing and there will not be a clear path or a clear vision if you don't have good leadership.

After exploring the importance of teacher quality and retention, participants were prompted to describe what, if any, concerns they had related to this topic. The principal shared affirmative remarks about educator preparation programs and critical remarks regarding institutional retention efforts:

> I feel like my educator program prepared me well, and teachers, for the most part, come in prepared to be quality teachers. I feel like retention as a whole—in our system of education—loses good teachers. Sometimes it's because the system is failing our good teachers and sometimes it's because our good teachers leave the classroom. I feel like we've got to do something to keep our good teachers in the classroom.

Probed to elaborate on why teachers are leaving the classroom, the principal responded:

> I think the genetic makeup of a teacher has changed…our whole profession is changing. Classroom teachers come in and they're movers and shakers and they're climbers. Someone of quality isn't going to stay in this profession, in the classroom, for 25 years like they did in the past.

Whereas Smith contended that quality teachers are not staying in the profession, the principal appraiser contended that quality teachers are not entering the profession, and once they do, they leave due to ineffective leadership:

> We don't have good quality people going into education, or really dedicated, smart people going into education. And if there isn't good leadership, [the teachers] leave and go somewhere else. That really impacts our smaller districts. They become training ground for really good teachers [but] those teachers leave about the time they [become] really effective.

The Decision-Making Process

To explore Research Question 2— How do principals gather, interpret, and use research to inform decision-making and action taking?—and Research Question 3—How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?—I instructed participants to generate a list of leadership decisions principals make that affect teacher quality and teacher retention. The principal and the principal's appraiser provided the information in Table 6.

Table 6

North East Independent School District Leadership Decisions

Principal: Ms. Smith	Principal Appraiser: Mr. Walters
Time allocation (*X)*	Professional development (*√)*
Curriculum and instruction support (*√)*	Observation and feedback (*X)*
Resource allocation (*√)*	Budget management and allocation (*√)*
Professional development (*√)*	Hiring practices (*X)*
Internal communication (*X)*	Teacher support and mentoring (*√)*
Morale building (*X)*	Facilitation of PLCs (professional learning
Teambuilding (*X)*	communities) (*X)*
Teachers Observing Teachers program (*X)*	Data review (*X)*
	Instructional practices (*√)*
	Coaching and modeling (*X)*
	Review and placement of teachers (i.e.,
	scheduling and leveraging talent) (*X)*

Note: X represents a unique field; √ represents congruence

When asked to select a decision-making process from the list and construct a diagram to illustrate the process principals use to make or guide leadership decisions, the principal selected a program she referred to as Teachers Observing Teachers (see Figure 8), and the principal appraiser selected the topic of observation and feedback (see Figure 9). I noticed a distinct

difference in the way the two participants approached the proposed task. The principal approached the task enthusiastically anxious to share the process she went through to introduce a new program to the campus. The principal appraiser, however, hesitated and shared that what he has observed while interacting with principals over the course of his career is not necessarily best practice. I encouraged Walters to construct the diagram to reflect what he believes is currently happening and acknowledged his intentions to build capacity in his newly acquired team and improve leadership practices.

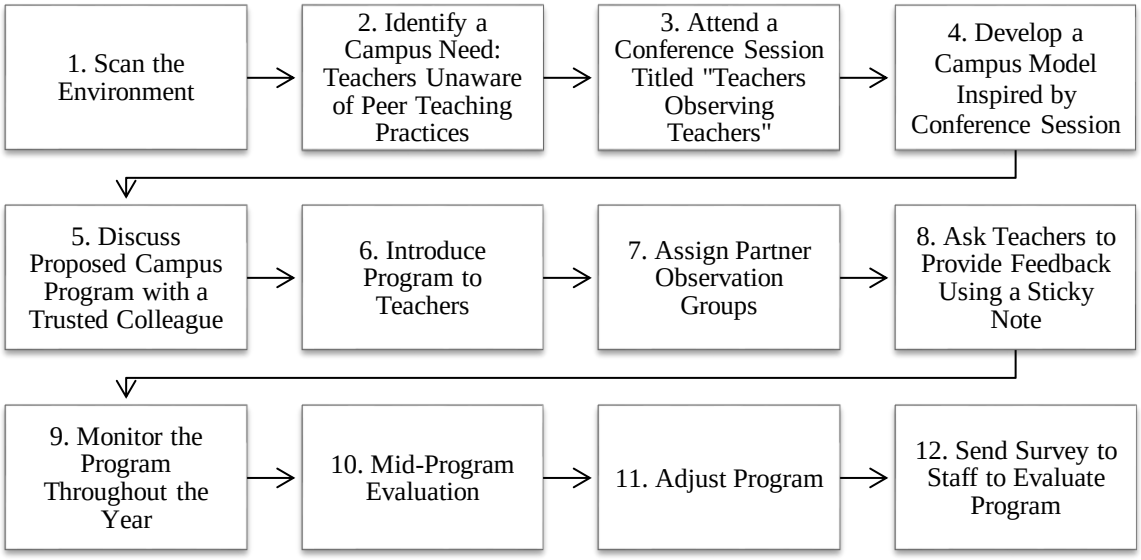

Figure 8. A flowchart of principal Smith's decision-making process: Program development.

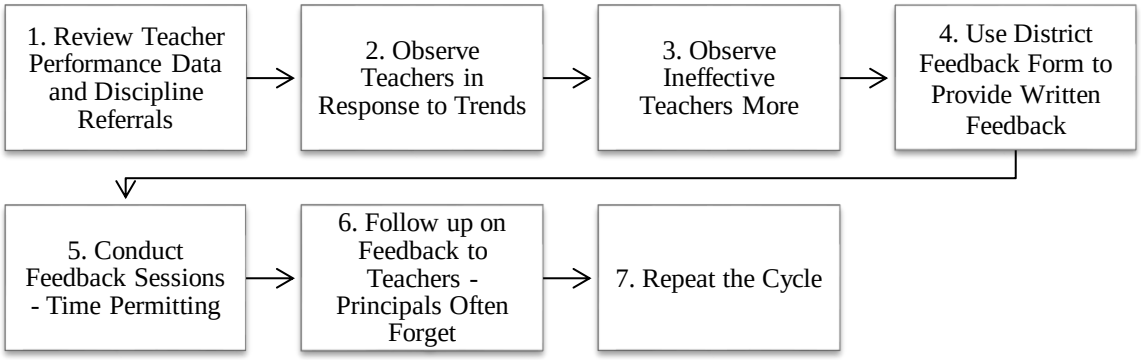

Figure 9. A flowchart of principal Appraiser Walters' perception of the decision-making process: Observation and feedback.

While Smith and Walters illustrated two different decision-making activities—each representing their own, unique perspective—I noted that both the principal and principal appraiser described scanning the environment and responding to cues and feedback within the environment. The principal appraiser described the decision-making process as somewhat reactive, whereas the principal used more deliberative and intentional language.

Research use. To discern how, if at all, research influenced the principal's decision-making, I pointed to the principal's decision-making diagram and asked the principal to denote where, if at all, research was used to inform decision-making. The principal responded:

> That's hard to answer, because I think when we read all the time—whether it's Twitter or social media—it becomes our own thought. What we read becomes who we are, whether it's principal groups on Facebook or whatever. Those conversations are always happening. I can't specifically, however, say that this article or this book influenced [my decision] in any way.

Provided the same prompt, the principal appraiser responded:

> I don't think a lot of them use any kind of research, honestly. Unless they have had really good training somewhere, and that has not been my experience with the principals I've worked with overall.

Principal observation. In the fall of 2018, Smith introduced a new campus program she titled Teachers Observing Teachers that was inspired by a conference session she attended in the

summer of 2018. Teachers Observing Teachers is a process that encourages teachers to visit several classrooms at their home campus to look at student work and observe instructional practices. Participants reflect on their experiences in writing using a sticky note and provide factual feedback to the observed teacher. The aim of this program, according to Smith, was to diffuse instructional best practices, provide teachers an opportunity to learn from other colleagues, and assist teachers in becoming more reflective practitioners.

During the interview session, Smith revealed the program was not as successful as she had hoped. Smith explained that the informal guidelines she provided, as well as the absence of a formal, campus-adopted observation form, resulted in minimal participation. To observe the principal's decision-making process up close and in its natural setting, I conducted a field observation during which the principal reviewed and revised the Teachers Observing Teachers program.

Decision-making. The observation began as the principal reviewed survey data related to the Teachers Observing Teachers program collected at the end of the 2018-19 school year. The Google Forms survey contained three open-ended prompts: (a) How can we work to improve the Teachers Observing Teachers program for next year? (b) What obstacles made this [program] difficult? (c) What suggestions do you have about [providing] feedback [to partner teachers]? Fourteen teachers completed the survey. The principal printed the survey results and reviewed each response individually.

Survey responses revealed mixed results regarding the need for and benefits of the program. Eight teachers elaborated on difficulties related to scheduling, two teachers suggested that observing teachers in other subject areas and grade-level bands was not effective, one teacher expressed that participation in the program prevented her from interacting with students

and parents, and three expressed value in the continuation of the program. In response to the principal's question about feedback, three teachers suggested use of a feedback form, and four teachers suggested that a form would merely increase the amount of paperwork the teacher was already responsible for and simply was not necessary.

After reviewing the survey results and making notes in the margins to identify themes, the principal established the need for a more structured observation protocol—specifically use of a feedback form. Smith opened a Google search bar and typed in the words "teacher observation form." The search yielded both image and webpage results. The principal quickly scanned search results and clicked on three separate websites. After reviewing each of the sites, the principal compared and contrasted elements on the recommended forms.

Smith then synthesized results and adapted the results to meet her needs and preferences. The principal opened her Google account, generated a form, and copied questions into the document, resulting in a campus observation form. The following prompts—(a) Summarize three strengths of the lesson, (b) Apply this to your own professional development goals and share what are you learning, and (c) Describe the course of action you will take in response to today's observation—were included. At the top of the form, the principal created a set of simple instructions and explained that once received, the principal would forward feedback to the cooperating teacher. Additionally, the principal outlined expectations for the new school year; teachers should complete one observation in the fall and one observation in the spring and use the new form to provide timely feedback.

The principal then assigned a title to the form, exited Google, and made a note-to-self to introduce the new process and form at an upcoming faculty meeting. Principal Smith shared that at a later date, she would either assign or let teachers self-select observation groups. The process

from start to finish lasted approximately thirty-two minutes, and the principal planned alone, in her office. Figure 10 represents my best attempt to capture the principal's decision-making process.

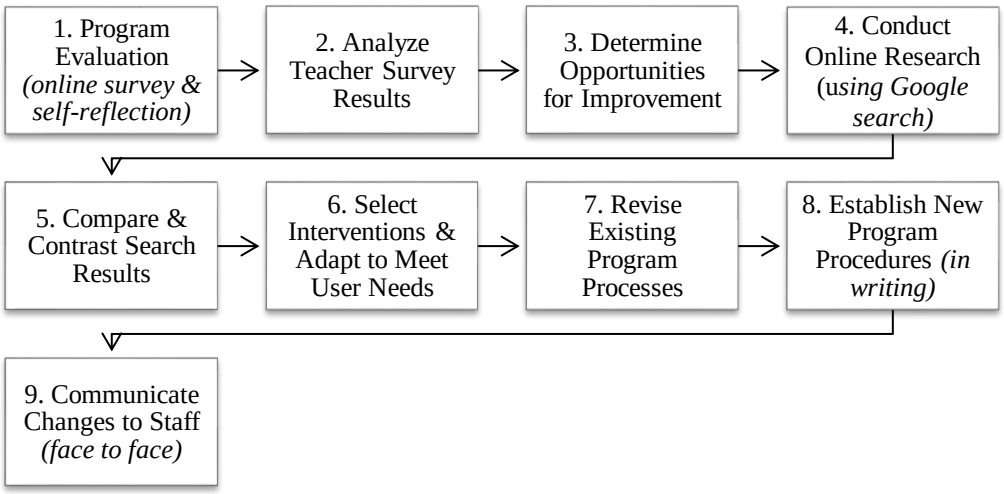

Figure 10. A flowchart of the researcher's observation of Principal Smith's decision-making process: Program evaluation.

Access to Research

To explore Research Questions 2 and 3 in greater depth, I asked both the campus principal and the principal appraiser to describe the kind of research principals have access to and how principals typically access research. Smith attributed knowledge acquisition primarily to social media:

> I'm on Twitter and Facebook. I read and interact there a lot. I have to be honest though. At the end of the day I am so tired that I just can't pick up anything else to read. So, I love the short feeds on social media. I can just sort of scroll through them and find something that relates to me. Sometimes a friend from another district will send something to me and say, "Hey read this," but mostly it's social media.

The principal went on to describe her perceptions of research:

> [Research] is important [hesitant]. I want to stay informed and keep getting better at my craft. I have to be on my A game, but sometimes I think [the authors] who write the books and [publish the] research must've been principals for like two years. [The authors] need to stay in a principalship for a minute because it's not that way. There's a lot more to

> it, and there are so many different layers of the job we do. On any given day, we make a ton of decisions. Literally on Friday afternoons, I am done. I cannot [make another decision]. I sometimes find myself at a red light, and I can't decide if I want to go to Target or go home. I just can't make any more decisions, and that's probably the heaviest weight of the principalship—the number of decisions you have to make in a day.

The principal appraiser confirmed the absence of a formal mechanism for sharing research and described a general lack of exposure:

> Research use and sharing [research] is a priority for me, but as it stands now, there is no real method for sharing research on a consistent basis. It's just not been a practice [here]. I visited with a principal last week who had not heard of *Teach Like a Champion*, or *Leverage Leadership*. Those are well-known books. So what that tells me is no one has been pushing the literature to them. Unless a principal is in some academy or program, they aren't being exposed to it.

The Research-Practice Gap: Perceptions and Impediments

I shifted the focus of the conversation to explore participants' impressions of the research-practice gap. Both the principal and the principal appraiser acknowledged the existence of a research-practice gap. In addition to decision-making fatigue and credibility concerns, Smith attributed the gap to

- urgent and pressing tasks (e.g., building issues, unexpected parent visits),
- toxic or resistant staff members, and
- a poorly aligned accountability system and the pressure to perform well.

Moreover, Smith admitted that tending to what is urgent—"overflowing toilets and mad mamas"—often takes precedence over her "instructional agenda for the day."

Whereas Smith attributed the research-practice gap to a prevailing sense of urgency, resistant employees, and a misaligned accountability system, Walters identified impediments such as

- poor time management—failure to use a calendar effectively,

- a lack of exposure,
- misaligned priorities,
- a misunderstanding of what actually improves schools,
- barriers imposed by central office,
- ineffective meetings,
- a lack of self-discipline, and
- investment in and overreliance on programs versus personnel.

When asked to evaluate the extent to which principals are sharing research-based practices with teachers at the campus and fostering dialogue about research trends and recommendations, Walters responded that he does not believe research dissemination is "happening regularly or systematically."

The Research-Practice Gap: Facilitators and Recommendations

During the latter portion of the interview, I transitioned the conversation to explore the organizational conditions that would facilitate greater research engagement. Smith proposed that districts

- set aside time for the intentional discussion of and reflection on research,
- help principals locate the research,
- facilitate discussions around the research, and
- create professional learning settings where principals can think out loud and learn through discussion.

Whereas Smith focused on networked learning supports, Walters focused on district-level and state-level supports. Walters suggested the Texas Education Agency provide training to

superintendents that prompts engagement with and exposure to up-to-date research. The appraiser suggested that districts

- prioritize research engagement,
- ensure a deliberative focus on high-leverage activities,
- scrutinize traditional practices—such as walkthrough and evaluation practices— to ensure practices result in improved outcomes,
- provide field-based coaching to principals,
- allocate time for principals to engage with and learn from research,
- revise personnel allocation practices to ensure principals are able to serve as the learning leader, and
- designate a learning leader—someone to oversee continuous learning.

Within-Case Discussion

The in-depth exploration of how central actors in NEISD perceive the relationship between research and practice, use research to inform practice, and of the organizational factors that promote and impede research engagement revealed that although research is valued, research is not necessarily being used consistently or in a strategic manner to inform policy, practice, and leadership decisions. I concluded—taking into account data collected during interview and observation sessions—that while the principal may display intention to use research and dedication to improving campus outcomes, the principal may lack the capacity to systematically employ research evidence.

Participants described a somewhat reactive orientation toward decision-making. Cues from within the system influence principal decision-making and shape principals' actions. Decision-making occurs quickly or in isolation and does not include opportunities for deep

reflection, disciplined inquiry, or critical analysis. Although Smith displayed rational, well-intentioned, and disciplined behavior—terms Walters did not use to describe all principals he has mentored and observed—in response to a performance gap, she quickly identified and adopted a solution obtained at a summer conference and continued to impose the solution despite the program's marginal success and despite receiving limited, unenthusiastic feedback.

According to the principal, decision-making is influenced by social media, conference sessions, peer endorsement, and educational literature. The principal appraiser, however, provided contrasting remarks. Walters asserted that principals do not regularly consult research and that districts have not provided adequate support in this area. The appraiser was astonished to learn that principals under his supervision were unfamiliar with trending literature such as *Leverage Leadership* and *Teach Like a Champion*.

The gap between research and practice in NEISD has been attributed to a lack of exposure, lack of resources, lack of time, a prevailing sense of urgency, decision-making fatigue, pressures associated with the state's high-stakes accountability system, and barriers imposed by the central office. To promote greater engagement, the principal and appraiser suggested that organizations facilitate learning networks, provide principal coaching, prioritize research use, scrutinize existing practices, and designate an organizational leader to facilitate continuous learning.

Summary

Within-case analyses of South Central ISD, North Central ISD, and North East ISD were provided in Chapters 4, 5, and 6, respectively. A comparative analysis that includes all three districts selected for this study is provided in Chapter 7. Chapter 8 includes a summary, conclusions, and recommendations for organizational leaders.

Chapter 7: Results From the Comparative Analysis

The purpose of this multiple-case study was to determine ways in which organizations such as public school districts could compel central actors such as campus principals to use available research to inform leadership decisions and introduce practices linked to favorable outcomes into the practice setting. To explore the diverse perspectives and experiences of central actors in public school districts, three school districts in the Region 11 service area in Texas were included in this study—South Central ISD (a pseudonym), North Central ISD (a pseudonym), and North East ISD (a pseudonym). Table 7 provides an overview of each the three participating districts.

Table 7

Comparison of Participating Districts

District	Student population	% Teachers with less than five years' experience	Turnover rate	Average salary
South Central Independent School District	>15,000	54%	22%	$58,000
North Central Independent School District	<500	20%	15.5%	$45,800
North East Independent School District	<3000	46%	27%	$48,000

This chapter provides a comparative analysis of the three districts included in this multiple-case study, inclusive of data collected through interview sessions and direct observation. The following research questions were used to frame this comparative analysis:

RQ1: How do principals and principal appraisers perceive the relationship between research and practice?

RQ2: How do principals gather, interpret, and use research to inform decision-making and action taking?

RQ3: How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?

RQ4: What organizational conditions promote and impede research engagement?

RQ1: Perceptions of Research and Practice

Research Question 1— How do principals and principal appraisers perceive the relationship between research and practice? —was devised to elicit participants' values and perceptions related to research use. To provide context during the interview, I focused the conversation on two pressing issues in education—teacher retention and teacher quality.

When asked about the importance of teacher quality and retention, and what concerns, if any, participants had about quality and retention, all participants responded that teacher quality and retention are very important. A third of the participants went on to suggest that teacher quality and retention are contingent upon effective hiring practices, and the majority suggested that retaining and developing talent is one of the leader's most critical tasks. Although Walters, a principal appraiser from NEISD, acknowledged the importance of teacher quality and retention, he contended, "Teacher quality and teacher retention are the second most important thing. The first is leadership."

The request for concerns about teacher quality and retention yielded more diverse responses. Respondents reported difficulty recruiting, hiring, and retaining teachers, and stated that once hired, effective teachers often leave the profession to pursue career advancement.

Participants also cited accountability measures, compensation structures, the industry's complacency toward turnover, a lack of leadership supports, and teachers' lack of training and readiness as contributing factors.

After exploring concerns about teacher quality and retention, I investigated principals' perceptions of and access to research. Two of the three principal respondents stated that research is critical to the role of the principal, and one suggested research use was somewhat important. Whereas Williams responded with conviction,

> If [the principal is] not committed to being the most well-versed leader on the campus, then who is? The expectation should be, that the principal is the instructional leader thereby, it takes a lot of research,

Smith responded somewhat tentatively:

> [Research] is important [hesitant]. I want to stay informed and keep getting better at my craft. I have to be on my A game, but sometimes I think [the authors] who write the books and [publish the] research must've been principals for like two years.

Responses during the interview session revealed that principals are exposed to research through both intentional and unintentional methods of diffusion. Specifically, principals access research through self-initiated or district-sponsored book studies, through attending conferences and professional development sessions, through doctoral coursework, and through informal channels such as peer networks, internet searches, and social media forums. Several specific sources were referenced throughout the study: *Leverage Leadership, Teach Like a Champion, Drive, Start With Why, School Leadership That Works*, and *Never Underestimate Your Teachers*.

The majority of participants acknowledged a gap between research and practice. Smith, a principal at NEISD, suggested the gap was only somewhat evident, and Thomas, an appraiser in NCISD, posited that while evident, the gap is "smaller than it was twenty years ago." When asked to explain why principals' access to research has not resulted in improved

outcomes related to teacher effectiveness and retention, more than half of participants pointed to the prevailing sense of urgency and the pace of the work. Other prevalent responses included the absence of time, insufficient time management practices, lack of experience or skill using research, misaligned priorities, and decision-making fatigue. Although less popular, participants also suggested that lack of perceived relevance, principal ignorance or ambivalence, motivation, and misaligned promotion standards (i.e., lack of role congruency between assistant principal and principal job descriptions) contribute to the distance between research and practice.

RQ2 and RQ3: Perceptions of Decision-Making

Research Question 1 was used to assess participants' understanding of what is happening and why advancements in research have not led to improved outcomes. Research Question 2— How do principals gather, interpret, and use research to inform decision-making and action taking? —was devised to explore decision-making processes adopted by principals and understand how, if at all, research is used to inform decision-making and action taking. Research Question 3— How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking? —was devised to explore decision-making practices through the lens of those who supervise principals and to highlight discrepancies between perceived and actual practice.

I used two methods to analyze decision-making patterns. First, I conducted interview sessions with principals and principal appraisers. Interview sessions consisted of a series of open-ended questions and the request to diagram decision-making routines. Following interview sessions, I conducted field observations to closely observe decision-making patterns employed by principals.

Interview sessions. I asked participants to construct a list of decisions principals make in an effort to improve teacher quality and retention. The following represents a sampling rather than an exhaustive list of responses:

- professional development;
- hiring and placement of teachers;
- coaching, observation, and feedback;
- teacher support and mentoring;
- measuring teacher effectiveness;
- teambuilding and relationship building;
- communication;
- how to share decision-making and allow for input;
- program adoption and creation;
- school culture;
- professional learning communities; and
- resource allocation.

Each participant self-selected a topic from the list and constructed a process diagram to explain decision-making routines. While each participant diagrammed unique decision-making processes, I was able to distinguish a few prevalent patterns. All respondents described a process that was in some way prompted by an internal environmental scan. For some, scanning meant reviewing performance data or survey results. For others, the scan occurred more informally through conversation and direct observation. Nonetheless, all participants acknowledged that cues from within the system influenced and prompted decision-making.

The majority of participants also illustrated a decision-making process in which the

principal becomes aware of a gap between actual performance and desired results, and proceeds to (a) develop a strategy, (b) establish a process to carry out the strategy, (c) evaluate and monitor the strategy, and (d) potentially adapt the strategy based on feedback. Decision-making diagrams most closely reflected underlying principles of the Plan-Do-Study-Act cycle.

Whereas the principals used logical and sequential terminology to describe patterns of behavior, Walters, a principal appraiser, suggested decision-making is often more sporadic and reactive than strategic. The remaining appraisers, Baker and Thomas, echoed—although less emphatically and critically—that principals may at times, due to poor planning and time management skills, neglect important steps in the decision-making path and become more reactive.

When asked to illustrate where in the decision-making process, if at all, research is used to inform principal actions, participants provided a range of responses. Half of respondents, including two principal appraisers and one principal, suggested that research undergirds the decision-making process, one principal bracketed a specific set of actions influenced by research, and one principal appraiser and one principal were unsure if or how research informs action.

According to the principals Smith and Williams and Baker, an appraiser, decision-making occurs primarily in isolation, where the principal serves as the central decision-maker and establishes organizational strategy. The principal may from time to time elicit feedback or work collaboratively with other staff members.

According to James, a principal, and Thomas, an appraiser, decision-making most closely reflects a shared decision-making model; the principal maintains authority and reserves the power to formalize decisions, but the principal gathers feedback from and consults with members inside the organization.

The appraiser Walters' depiction of decision-making did not mirror either of the aforementioned patterns. Walters described—taking into account all principals he has supervised and mentored over the course of his career—what I will refer to as a reactionary stance to decision-making; decision-making that is influenced by immediate, internal cues and lacks a coherent strategy and vision for the long haul.

Observation sessions. Because there may be discrepancies between how participants describe decision-making routines and how participants carry out those routines, the study paired interview sessions with principal field observation sessions. I observed Williams' process for planning and organizing back-to-school training for teachers, James' process for conducting a needs assessment, and Smith's process for refining an existing program. During the observation sessions, I participated as a careful observer and illustrated decision-making processes employed by principals.

Williams. Williams' decision-making process was influenced and inspired by several sources—organizational templates, prior year agendas, sermon notes, a TED Talk, a few handwritten sticky notes that served as notes to self, books such as *Toybox Leadership* and *Start With Why*, and a number of conference session handouts. Having previously conducted an informal needs assessment (i.e., a review of campus data and teacher reports), Williams demonstrated a process through which he determined growth objectives for the campus and worked within organizational constraints to thoughtfully and purposefully develop a strategy for professional development. The principal planned alone, in his office, but shared that at a later date he would work with the leadership team to assign roles and responsibilities, collect input, and further develop his strategy. While Williams drew inspiration from sources, and the principal referenced several research-based instructional strategies he would integrate into his agendas, I

did not observe the principal gathering, interpreting, synthesizing, or explicitly using research to inform decision-making.

James. James' leadership beliefs and prior training appeared to influence decision-making behaviors. Prior to the observation, the principal shared the importance of conducting a needs assessment each summer. The principal used an online search engine to locate questions for and construct a campus needs assessment. Although the principal indicated that Marzano's research on school culture and leadership influenced his overall strategy, I did not observe the principal gathering, interpreting, or explicitly using research to inform decision-making. Instead, the process most closely reflected components of the continuous improvement cycle; the principal's aim was to gather information inside the system and later use the information to inform campus plans and leadership strategy. Similar to Williams, James planned alone, and planned to elicit feedback at a later date through use of an online survey. The principal shared that in addition to collecting feedback, he would collaborate with his campus leadership team to review responses, identify themes, and ultimately "follow the big themes."

Smith. Smith's decision-making behaviors appeared to be motivated by continuous improvement. Prior to the observation session, the principal collected survey data related to a campus program, Teachers Observing Teachers. The purpose of data collection cycle was to provide Smith insight into ways in which she could refine program processes to ensure more engagement and success. During the observation, I observed Smith reviewing survey data, identifying themes and trends, and using patterns in the data to inform future strategy. While it was clear the principal was using data to inform steps in the decision-making process, it was unclear how Smith prioritized feedback.

Once Smith determined she needed to revise program processes to include use of a structured feedback form, Smith began searching for inspiration online. After collecting and synthesizing a set of observation prompts, Smith used Google Forms to construct a form for the program and provide a clearer set of instructions and expectations. Smith shared that she would later introduce the new process to her staff and either assign or let teachers self-select observation partners. Similar to Williams and James, the principal worked alone, and I did not observe the principal gathering, interpreting, or using research to inform decision-making.

Comparative analysis. Observation sessions confirmed patterns that emerged during the analysis of interview transcripts. Principal decision-making appears to be inspired by sources outside the organization such as conference sessions, doctoral coursework, media, internet searches, and presentations and impelled by cues inside the organization such as survey data, teacher feedback, and informal observations. Two of the three principals referenced specific literature that informed or inspired decision-making—Marzano's research on school leadership and culture, *Start With Why*, and *Toy Box Leadership*. However, during principal observation sessions, I was unable to distinguish a direct line between research and practice, and did not observe any use of or explicit reference to a body of research. Considering all information, it is my conclusion that in the context of this study, research inspires and undergirds decision-making, but it does not directly inform principals' behavior.

The comparative analysis also indicated that principals are not provided strategic or consistent opportunities to engage in and with research. While principals may be learning from the system through needs analysis, performance data, and observation, there appeared to be a lack of opportunity for principals to learn how to improve the system. Nonetheless, principals appeared motivated to learn, as evidenced by attendance at conferences, engagement in social

media forums, enrollment in doctoral programs, and commitment to bodies of knowledge shared with them through casual diffusion methods.

RQ4: Conditions that Promote and Impede Research Engagement

Research Question 4—What organizational conditions promote and impede research engagement? —was devised to determine ways in which organizational context impedes research and ways in which the organization could be restructured to ensure that practices linked to improved outcomes are introduced at the campus level.

Impediments. Ten broad impediments were identified during interview sessions—(a) lack of time, (b) sense of urgency, (c) lack of skill or training, (d) lack of motivation and prioritization, (e) accountability, (f) lack of exposure, (g) permission, (h) lack of mentor or social network, (i) central office, and (j) lack of personnel.

All principals and appraisers shared that a lack of time and working in an environment surrounded by urgent and pressing issues prevents principals from engaging with and leveraging research. The majority of respondents suggested that failure to prioritize research use, along with a lack of preparation, skill, and training, ultimately prohibits research engagement. Half of the respondents mentioned tension between accountability systems and the need for more resources such as hiring additional personnel or permission to reallocate personnel.

Facilitators. Ten broad recommendations emerged from the interview sessions—(a) routinization, (b) peer networks, (c) communication, (d) leadership, (e) time, (f) coaching, (g) revision of meeting agendas, (h) resources, (i) explicit modeling, and (j) shared leadership.

Structure and socialization. More than half of participants expressed desire for routinization and recommended that organizations establish a routine and structure for reviewing, synthesizing, and discussing research. Additionally, more than half of participants expressed

belief that peer networks—supported with sanctioned time to meet and opportunities to discuss relevant literature—would close the distance between research and practice. Three of the six respondents suggested that organizations revamp meeting agendas to focus on instruction rather than organizational business.

Leadership. Half of the participants also expressed need for leadership supports—specifically that districts model how to interact with research, designate a learning leader, and transform existing leadership structures to embrace principles of co-leadership and shared leadership. Less prominent recommendations included the need to simplify research implications, communicate at the district level the importance of research use, and provide coaching and additional resources, such as funds to attend conferences. Regarding leadership, Williams cautioned that not all leadership is created equally:

> The person leading principals must know the right processes, procedures, and experiences to enrich the principal's experience. I think there could be many districts where the person in charge of principals may not be an instructional or organizational leader and that is problematic.

Summary

Chapter 7 provided a comparative analysis of how central actors in three school districts in the state of Texas perceive and experience the relationship between research and practice. Framed by four research questions, this analysis revealed that principals and appraisers prioritize teacher quality and teacher retention, are concerned about ways to develop and retain a high-quality workforce, and value research and continuous improvement. Principal decision-making appears to be primarily inspired by sources outside the organization such as conference sessions, doctoral coursework, media, internet searches, and presentations but impelled by cues inside the organization such as survey data, teacher feedback, and informal observations.

Although participants reported use of research, it was difficult during observation and interview sessions to distinguish a line between research interventions and principal behavior. The study revealed that in regards to participants in this multiple-case study, research may undergird decision-making, but research does not explicitly inform decision-making. Participants identified several impediments to research engagement—time, a sense of urgency, and lack of skill or training—as well as several facilitators to research engagement—leadership, learning communities, and routinization. Chapter 8 will provide a summary of the study's findings and present conclusions and recommendations for organizational leaders and future research efforts.

Chapter 8: Conclusions, Implications, and Recommendations

Although researchers identified the critical components of effective instruction (Fisher & Frey, 2014; Hattie, 2017; Marzano, 2016; Schmoker, 2018) and the most appropriate ways to develop teacher expertise (Bambrick-Santoyo, 2018; Darling-Hammond et al., 2017; Hanover, 2017; Knight, 2014; McGaghie et al., 2015), classroom observations conducted over the last thirty years illustrated few opportunities for students to speculate, improve analytical skills, extend critical thinking, and interact with peers (Antonetti & Garver, 2015; Goodlad, 1984; Pianta et al., 2007). Although researchers identified the most effective ways to engender employee commitment and increase workplace engagement and satisfaction (Armitage & Parrey, 2013; Brill & McCartney, 2008; Carver-Thomas & Darling-Hammond, 2017; Gallup, 2016; Karanges et al., 2015; Kraft & Papay, 2014; Men, 2015; Menguc et al., 2013; Mone et al., 2011; TNTP, 2012), half of all teachers leave the profession within their first five years of teaching (U.S. Department of Education, 2016), and the teaching workforce loses a continuous stream of educators each year for reasons other than retirement (Podolsky et al., 2016).

Second to teacher effectiveness, principals—who implement interventions linked to organizational improvement—have the most direct effect on student achievement (Fullan, 2002; Louis et al., 2010). The skillful use of research has the potential to support and inform improvement efforts, but recommendations have been slow to gain acceptance and have not resulted in widespread application (Antonetti & Garver, 2015; Goodlad, 1984; Pianta et al., 2007; TNTP, 2012; TNTP, 2015). There is a gap between research and practice, and consequently, improvement in education is "not happening at the speed and scope of what is possible" (Bryk et al., 2015, p. ii).

The purpose of this multiple-case study was to determine ways in which organizations such as public school districts could compel central actors such as campus principals to use available research to inform leadership decisions and introduce practices linked to favorable outcomes into the practice setting. To achieve this purpose, I (a) explored how principals perceive the relationship between research and practice, (b) examined decision-making processes employed by principals responsible for the diffusion of research-based interventions at the campus level, and (c) identified organizational conditions that promote and impede research engagement. Principals and principal appraisers from three diverse school districts in Texas were identified to participate in this study. I paired interview data with observation data to obtain a broad understanding of the factors contributing to and organizational interventions that could potentially reduce the research-practice gap. The following four research questions were used to focus the study:

RQ1: How do principals and principal appraisers perceive the relationship between research and practice?

RQ2: How do principals gather, interpret, and use research to inform decision-making and action taking?

RQ3: How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?

RQ4: What organizational conditions promote and impede research engagement?

Case analyses of each of the three districts were presented in Chapters 4, 5, and 6, and a comparative analysis was presented in Chapter 7. This final chapter includes a summary of the results, conclusions, implications for organizations, and recommendations for further research.

Conclusion 1: There are no Bad Apples, Just Well-Intentioned Actors

It would be tempting to attribute the distance between research recommendations and organizational outcomes in education to principal ambivalence or apathy. However, results of the comparative analysis revealed that principals and those who supervise principals value the development and retention of a high-quality workforce, are keenly aware of the issues compounding teacher quality and retention, and are deeply concerned with how to create conditions under which teachers experience growth and satisfaction.

It would be tempting to attribute the distance between research recommendations and organizational outcomes in education to principal ignorance or resistance. However, despite rather passive diffusion efforts at the district level, principals provided numerous accounts of their active involvement in the pursuit of knowledge. Outside regularly scheduled office hours, principals engage in continuous education through self-initiated book studies, conference and professional development sessions, doctoral programs, and informal peer and online networks. All principals and appraisers hold a master's degree in education, and four of the six hold terminal degrees. At no time did I detect a lack of commitment, an aversion to learning, or lack of concern. This is not a case of bad apples.

What I did, however, detect was considerable agreement about the presence and causes of the research-practice gap. Eighty-three percent of participants acknowledged the existence of a research-practice gap in education. The majority credited the gap to a prevailing sense of urgency, the pace of the principal's schedule, and a lack of time. All principals admitted that while they value research, they do not engage with research as much as they should.

Summary. In response to Research Question 1—How do principals and principal appraisers perceive the relationship between research and practice? —I concluded that campus

principals and those who supervise and support principals are not ambivalent, unmotivated, or unwilling to draw from an existing knowledge base. Participants are also not naïve about the existence of a research-practice gap. However, when it comes to closing the distance between research and practice, awareness, good intentions, and a willing disposition simply may not be enough. While central actors are concerned about teacher quality and teacher retention, some element of work structure or organization may prevent central actors from consulting existing evidence and instituting research-based interventions.

Conclusion 2: While Informed of Research, Decisions are not Informed by Research

Campus leaders make decisions daily that influence and impact teacher quality and retention. Specifically, principals make decisions about how to effectively hire and position staff members, deliver feedback and develop the capacity of professionals, provide ongoing support and mentorship, measure and monitor teacher effectiveness, share decision-making authority, build rapport, and establish a positive school culture. Research has the potential to inform these transformational efforts, but it was difficult during interview and observation sessions to distinguish a line between research recommendations and subsequent principal actions. While principals may be informed *of* research, I concluded that leadership decisions are not necessarily informed *by* research.

Principal interviews. When asked to diagram a leadership decision related to teacher development or retention, principals were able to clearly articulate with great detail a decision-making path. Although I detected information-seeking behaviors such as curiosity and interest, process maps denoted little critical thinking, disciplined analysis, and deliberation. In response to environmental scans and cues within the environment, it appeared that principals resorted to

what Bryk et al. (2015) referred to as *solutionitis*— the "propensity to jump quickly on a solution before fully understanding the exact problem to be solved" (p. 24).

There appeared to be little whitespace between deciding and doing—between diagnosis and strategy formation. Cued by the environment, principals fell prey to swift decision-making and bounded awareness—to the "cognitive blinders" that "prevent [people] from seeing, seeking, using, or sharing highly relevant, easily accessible, and readily perceivable information" (Bazerman & Chugh, 2006, p. 90). Adopted solutions inspired not by research but by perceptual evidence, a surface-level understanding of a problem or leadership theory, or someone else's good idea became the foundation for principal action.

When asked to explain where, if at all, research was used to inform decision-making, the three principal participants provided three different responses. Williams pointed to specific, adopted intervention—the observation and feedback cycle, James drew a circle around his entire decision-making diagram, and Smith shared that while she was unable to point to a specific piece of literature or article, she felt research "influences who [she is] as a principal." Williams' adoption of the observation-feedback cycle—based on data Bambrick-Santoyo (2018) collected over the course of ten years while working with thousands of school leaders—served as the only tangible example of a how published body of evidence was used to inform strategic action. Although all participants expressed that research was being used to inform decision-making, there was no systematic and consistent method for searching, retrieving, and leveraging research evidence across participants.

Principal observations. To obtain a clearer understanding of the process principals use to make decisions, I examined principals' decision-making processes. I observed Smith's process for revising an existing program, James' process for developing a campus needs assessment, and

Williams' process for planning back-to-school professional development. Observation sessions highlighted the absence of a systematic retrieval and examination process and echoed Bazerman and Chugh's (2006) assertion that even when provided "sufficient time to make decisions, most individuals still fail to bring the right information into their conscious awareness at the right time" (p. 90). Spared from a deluge of interruptions, Smith and James continued to rely solely on teacher perceptual data and results of an internet search during the decision-making process. Spared from a deluge of administrative tasks and armed with an inspiration file of his making, Williams recycled organizational agendas and restricted use of external sources to direction setting and motivational messaging. Principals were learning from the system but were not necessarily learning how to improve the system.

Appraiser interviews. Results of appraiser interviews mirrored principal interview and observation findings. Appraisers suggested that cues from within the environment such as teacher observation data, student achievement data, master schedule limitations, and increased discipline infractions prompted principal decision-making and action taking. Whereas principals described a more methodical approach to decision-making, appraisers—especially Walters—stated that lack of planning and prioritization may cause principals to forgo what is important in pursuit of what appears urgent at the time. Two of the three appraisers suggested that research undergirds principals' decision-making process, and one appraiser speculated that research is rarely, if ever, used.

When I inquired how, if at all, districts support research engagement and continuous learning, I noted an overall absence of formalized interventions at the district level. Instead, district leaders appear to rely upon casual methods of diffusion such as informal administrative conversations, occasional book studies, and professional conferences. Only one appraiser—

Baker—expressed use of leadership meetings to foster discussion and examination of data and research, and even she suggested that the process was in need of remediation.

Summary. In response to Research Question 2— How do principals gather, interpret, and use research to inform decision-making and action taking?—and Research Question 3—How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?—I concluded that principals do not have a formal process for gathering, interpreting, and using research to inform leadership decisions. Moreover, institutions of learning are not instituting systematic opportunities for learning. Although two of three appraisers and two of three principals speculated that research undergirds decision-making—that research shapes beliefs and beliefs shape decisions—combined interview and observation data suggests that principal decisions are loosely, if at all, informed by research.

Principal observations revealed a proclivity toward quick and instinctual decision-making, rather than slow, conscientious, and analytical decision-making. Provided that observations occurred in the summer while the majority of staff and students were on vacation, I assumed that observations would expose a more methodical approach to decision-making—one that would include consultation and integration of research evidence. Instead, principals resorted to familiar patterns and Google searches. Therefore, I concluded that on its own, the provision of uninterrupted time would do little to remedy the research-practice gap.

Conclusion 3: It is Difficult to Transform the System Inside the System

Research engagement refers to the intention, willingness, and capacity to regularly employ evidence wherever and whenever possible (Greany & Brown, 2017, p. 4). To explore the organizational conditions that impede research engagement and ways organizations could facilitate greater engagement, I analyzed interview responses and observation field notes.

Impediments. When I asked participants to explain the distance between research and practice, four prominent impediments emerged from the data—a lack of time, a prevailing sense of urgency, a lack of skill or preparation, and a lack of motivation or prioritization. Other, less prominent themes included lack of accountability, lack of exposure, lack of permission, lack of a mentor or social network, central office, and a lack of personnel.

Reflecting on the collective data, I noted a disconnect between participant perceptions and subsequent behaviors. As mentioned previously, even when principals were provided sanctioned time and spared interruptions, principals resorted to reactionary decision-making. Could participants' perceptions be limited to the tip of the iceberg—a phrase used to imply that one can only see a small part of a whole situation (Goodman, 2002)? Are participants unable to see the underlying mental models and structures generating perceived issues and events?

Throughout the study, principals displayed willingness and intention to use research. Smith attended conferences and accessed Google and social media sites. James drew inspiration from doctoral coursework and engaged in online social networks. Williams integrated a single intervention from *Leverage Leadership* and collected inspirational stories and materials over the course of the summer. Could it be that the distance between research and practice represents a lack of capacity—a lack of decision-making competency—rather than willingness and intention? Could it be that, as Thomas, an appraiser participant, suggested, "most principals don't walk [through] the door with a great decision-making process?"

Facilitators. When asked to describe the organizational conditions that would promote research engagement, participants identified ten facilitators, including routinization, peer networks, time, the revision of meeting agendas, access to a learning leader, and the ability to delegate responsibility for operational tasks. In search of clarity, I consulted not only participant

responses, but reviewed the list of sources mentioned throughout the study. In doing so, I concluded that principals are drawn to information sources that are consumable, easily accessible, inspirational, and diffused or endorsed by a trusted peer or mentor. Moreover, principals respond to learning that is social and relevant, and may benefit from literature that is more process driven than content driven. It is important to note that the terms *consumable* and *accessible* do not necessarily suggest a lack of rigor. I used Readability Analyzer—a statistics-based website that analyzes textual passages to determine complexity and readability—and discovered that texts referenced throughout the study ranged from easy-to-read, i.e., 5th or 6th grade level, to difficult to read, i.e., college level.

In some respects, Williams' case study served as an anomaly; not only was Williams able to point to a specific intervention derived from research, but there was substantial congruence between William's account of the decision-making process and his appraiser's account. After carefully reviewing the book *Leverage Leadership* that Williams referenced in his interview session, I became even more curious about the prospective relationship between clarity and implementation. In addition to textual explanations, *Leverage Leadership* contains deeply codified processes, scripts, and video exemplars. Returning to the literature, I reflected on the work of Nelson and O'Beirne (2014) and Heath and Heath (2010). Could it be that to translate into the practice setting, evidence must be contextualized for practice and presented in a clear, accessible format (Nelson & O'Beirne, 2014)?

Summary. In response to Research Question 4— What organizational conditions promote and impede research engagement?—I concluded that while disguised as a time problem, the distance between research and practice may very well be a capacity, socialization, and clarity

problem. If this is the case, it may be difficult for principals—who work in isolated settings and engage in intuitive decision-making—to transform the system while working inside the system.

Implications for Organizations

What then can an organization such as a public school district do to support research engagement? How can the organization simultaneously provide stability and support disruptive innovation? Drawing on Rogers' (2003) innovation-decision process, conclusions in the literature review, results of this multiple-case study, and knowledge that people tend to make "good choices in contexts in which they have experience, good information, and prompt feedback," but perform less favorably in contexts in which they are "inexperienced and poorly-informed, and in which feedback is slow or infrequent" (Thaler & Sustein, 2008, p. 9), I present the following implications for organizational leaders.

Implication 1: Organizational leaders should reimagine how and where principals work. A leader, no matter how well trained, cannot practice research engagement and implement research innovations with fidelity in a structure that conspires against them and presents so many competing priorities. It is unrealistic to expect the principal to stabilize the current system and innovate, i.e., disrupt, the system at the same time. Organizations must therefore scrutinize existing structures and consider ways in which the principal's workspace—for better or worse—shapes behavior and is responsible for current results. If people eat less food when served from smaller plates (Thalheimer, 2018a) and a pilot's operating system predicts successful air navigation (Dekker, 2014), what may be masked as a people problem may be a problem of location, structure, and space.

To achieve sizable change, the field of education will need more innovative, disruptive-thinking—individuals who understand how people learn and work, act upon a bold vision of the

future, and can leverage available research and resources within the constraints of their environments to build organizational capability. While much has been published about the need for change and innovation in education, the context in which the principal works does little to promote or foster innovation. Current workspaces fail to support the most important activities and interactions. Under the current structure, principals serve as chief operating officers who are expected to manage the existing machine—spend each day at the campus supervising human capital, overseeing operating structures, responding to crises and conflict, and monitoring classroom instruction—while isolated from other individuals in similar positions tackling similar problems. While a competent leader can act upon cues within the environment to incrementally improve existing practices, it will take more than responsiveness and incremental progress to address the more complex and wicked problems in education. As long as principals remain in chaotic, frantic environments, principals will continue to produce and do what they were trained as assistant principals to produce and do.

Consider how designers and transformational leaders in other fields work. An architect plans, designs, and connects people to spaces, but does so from a studio as well as a construction site. The architect may visit the job site to draw inspiration and identify constraints, and the architect may oversee phases of the project, but it is in the studio that an architect is able to create and act upon his or her vision. Designers at IBM who develop software tools that allow cancer specialists to analyze health data to gain insights spend time in the field acting as ethnographers—following doctors and nurses during rotations, listening, and asking questions—and time in the studio creating and prototyping (Graffeo, 2017). Space and structure shapes behavior, which in turn shapes innovation and ultimately, organizational outcomes.

Organizations recognize that research and innovation is critical to success, but results of this study showed that organizations struggle to provide effective networked solutions and collaborative spaces for research and innovation to occur. Perhaps it is time to defy tradition and reimagine how and where principals spend their time. Some potentially valuable questions to explore include the following:

- Why are principals spending so much time working inside a system—and to stabilize a system—that is producing lackluster results?
- Is it plausible for principals to improve the system while working inside the system?
- What are the most vital interactions, and how is the organization supporting those interactions?
- Why do principals work separate and apart from peers who assume similar positions and are tackling the same chronic issues?
- How might the organization shift expectations regarding campus office hours and create spaces and opportunities for principals to cluster together to explore, develop, and test new approaches to practice?
- While at the campus, what high-leverage tasks should the principal assume?
- To create more whitespace for innovation to occur, what can be delegated, to whom, and how?
- What structures and processes could be put into place to ensure that while at the campus, the principal does not respond to or assume responsibility for low-level activities?
- Why must principals serve as assistant principals? Are there other roles, rotations, or internships that would better prepare principals for the visionary, transformational role of the principalship?

Implication 2: Organizational leaders should enable transformational work. Results of this study showed that while spared from the deluge of interruptions, principals still failed to interact and use research to inform decision-making. Carving out time and space for research and innovation without providing adequate supports would be futile. Quality decision-making depends upon the quality of thought involved (Austin et al., 2012) and the quality of information to which individuals have access. Organizations must therefore support and enable quality thought by increasing members' access to reliable information, systematically convening members to dissect complex problems (Austin et al., 2012), and demonstrating use of disciplined inquiry to drive improvement (Bryk et al., 2015). Doing so would not only ensure that quality thought results in quality outcomes, but it would honor participants' expressed needs for accessibility, routinization, and socialization.

***Increase access*.** To facilitate greater use of research evidence, organizations at the local level and state level should survey promising practices (Austin et al., 2012), increase members' access to research, translate the abstractions of research into codified language of practice (Greany & Brown, 2017), assist members in assessing the validity of research claims (Jones, 2018), and tailor messages to meet the needs of the consumer (Nutley et al., 2003). Provided principals' overreliance on social media, internet search results, and conference events, organizations must also prioritize strategic communication and practice the active diffusion of dependable information. After developing consensus around what terms such as research-engagement and research-informed decision making mean (Austin et al., 2012), organizational leaders may find it helpful to designate a chief innovation officer or partner with regional service centers to drive improvement efforts and (a) govern how information is managed and shared across the organization, (b) oversee the communication mechanisms used to facilitate

information sharing (Bryk et al., 2015), and (c) map the process flow of knowledge across the institution, i.e., who communicates what, when, and how.

***Establish learning communities*.** Once promising practices have been identified and disseminated, organizations should strategically convene members to discuss and debate relevant sources and citations, generate and examine critical reflection questions, i.e., problems of practice, and conduct after-action reviews to monitor evidence use (Austin et al., 2012). Due to the sizable number of rural districts in the state of Texas, state leaders may need to organize these sessions by region and appoint and provide access to a regional service provider. If organizational learning is contingent upon team learning (Senge, 1990), habits such as those offered by Sharp et al. (2006) could be introduced to stimulate curiosity and critical thinking:

- When someone makes an assertion, ask for evidence.
- Make space for professional dialogue and dissent in staff meetings.
- Encourage staff to share and reflect on their practices.
- Refer to research findings and model use of research to inform decision-making.
- Make a commitment to listen to and act on the results of research, even if the results challenge existing views and practices (Sharp et al., 2006).

While a number of protocols exist, such as those outlined in Chapter 2 of this study, the critical task of the learning community must be to challenge members to examine and confront the patterns and trends, structures and systems, and mental models generating perceived issues and events.

Implication 3: Organizational leaders must build problem-identification and decision-making capacity. The quality of training a leader receives prior to and once hired as a principal determines whether the leader can successfully navigate the challenging demands of the

principalship (Wallace Foundation, 2007). Participants suggested that the current pathway to the principalship does little to prepare a leader for the realities of the principalship. Consequently, principals may be doing exactly what they were trained to do as assistant principals—respond to stimulus in the environment and make fast, expeditious, and compliance-based decisions.

Time and space and access and collaboration, while powerful interventions, are simply not enough. To disrupt deeply engrained mental models, practitioners will also need opportunities to cultivate systems thinking, fully appreciate underlying causes of chronic issues, develop rigorous problem-statements, and make sense of and apply research in practical, concrete ways. Using inquiry protocols and triggering exercises such as those outlined in the Chapter 2 CLTS case study, organizational leaders should create opportunities for principals to examine present reality more clearly and construct problem-statements that (a) sufficiently address the distance between the organization's current and desired state, (b) are human-centered, (c) are broad enough to stimulate creative thinking, and yet (d) narrow enough to garner commitment and follow-through (Dam & Siang, n.d.).

Once meaningful problems have been identified, principals must know what they are expected to do, i.e., the *what*, be committed to it, i.e., the *why*, and feel enabled to do what is expected, i.e., the *how* (Austin et al., 2012). Organizations must provide high-level direction in the midst of constant decision-making as translation requires clarity (Heath & Heath, 2010) and practice. While learning out of context may not lead to applied learning (Fullan, 2002), learning out of context may be necessary to provide principals the white space that is needed to slow down and scrutinize decision-making processes and existing mental models.

Not all professional learning sessions are created equally (Thalheimer, 2018b). As such, organizations should ensure that development opportunities are designed to help leaders make

better decisions (Thalheimer, 2018b). Training and development sessions must not simply create awareness, but support realistic decision-making (Thalheimer, 2018b) and deliberate practice. Because the ultimate objective is not a decision but implementation and continuation (Rogers, 2003), professional development providers must enable learning transfer by

- providing participants a realistic text- or video-based scenario,
- asking participants to decipher what the context means,
- encouraging participants to make a research-informed decision and explain the rationale behind the decision, and
- teaching participants to implement the decision in either a high-fidelity simulation or in the work setting whereupon they receive feedback (Thalheimer, 2018).

Implication 4: Organizational leaders must stabilize and reinforce efforts. To reduce the distance between research and practice and ensure ongoing innovation, organizations must close the distance between effort and impact. The reason cooks make tastier food when they can see their customers (Buell, Kim, & Tsay, 2014) is the same reason that interviewees—who receive subtle cues of approval from interviewers such as nodding or smiling—perform better (Kassam, Koslov, & Mendes, 2009). Human beings, regardless of their role in the organization, excel when they can see the beneficiary of their work or witness the positive effects of their work (Buell et al., 2014; Maylett & Warner, 2014). For change efforts to stick, individuals must receive positive feedback (Thaler & Sustein, 2008) and link change efforts to improved outcomes. According to Thaler and Sustein (2008), “Well-designed systems [such as Weight Watchers, Army, 7-Eleven, IBM as highlighted in Chapter 3] tell people when they are doing well” (p. 90).

To ensure interventions linked to favorable outcomes translate to the practice setting, organizational leaders may find it helpful to

- recognize meaningful outcomes of [principals'] hard work,
- highlight evidence that suggests [principals' efforts are] making a difference for the organization and end user, and
- provide meaningful recognition of [principals'] proficiency and value (Maylett & Warner, 2014, p. 150).

Recommendations for Future Research

Due to the limitations of this study and the pervasive nature of the research-practice gap, more conceptual and evidence-based research is needed to extend this work.

Recommendation 1: Future researchers should map and assess the impact of organizational structures. There is a dearth of literature mapping the structures that facilitate research use across organizations (Cooper & Levin, 2013). While participants in this study identified and recommended a number of interventions and supports they believe would facilitate research use, experimental studies are needed to validate and test these propositions. Further research that moves beyond perceptual feedback and survey data is needed to determine the impact of specific organizational interventions on research use and the uptake of innovative practices.

Recommendation 2: Future research should provide tangible exemplars of research-related discussions. Results of this study echoed seminal works and revealed that research-related discussions are not embedded in organizational practices. Provided the number of meetings and professional development sessions principals generally attend, it would be easy to leverage existing structures to facilitate research-related discussions. What is needed, however,

are tangible exemplars that move beyond the simple discussion starters and question stems highlighted in the literature review to capture what research-related discussions look like and sound like at the granular level. Thick, rich descriptions and step-by-step instructions and field guides—such as those included in the CLTS' operating handbook (see Chapter 2)—would equip organizations with the explicit knowledge needed to aid problem identification and scale and sustain improvement efforts.

Recommendation 3: Future researchers should study innovation and socialization patterns in other fields. Despite the fact that principals across districts identified a similar list of priorities, concerns, and tasks, principals operate primarily in isolation. Future researchers should explore innovation patterns in diverse fields such as technology and healthcare to identify the organizational structures that encourage social interaction, diversity of thought, and collective problem solving. Specifically, researchers should focus on who works with whom, where and how, and identify the tools, protocols, and organizational supports that work together to make innovation possible.

Conclusion

There is no silver bullet or master playbook when it comes to solving education's pervasive problems. Research may hold recommendations about how to fix the problems that plague education, but in order for leaders to translate those interventions into the practice setting, organizations must establish a culture that supports retrieval, translation, decision-making, and implementation. This study showed that when it comes to closing the distance between research and practice, good intentions, a willing disposition, access, and an open stance toward research evidence do little to narrow the divide. The root cause is not one of motivation, attitude, or intention, but of structure. Consequently, incentivizing behavior and using carrots and sticks to

compel central actors to behave better or review more research is futile. If organizations yield exactly what organizations are designed to yield, practitioners in the field of education cannot achieve widespread, sizable change until institutions of learning institute systematic opportunities for learning and carefully examine the hidden contexts that shape leaders' thinking, acting, decision-making, and action taking.

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Appendix A: Interview Guide

Welcome and Opening Remarks:
Thank you for taking the time to participate this study about decision-making practices of principals. I am interested in your perceptions and experiences regarding principal decision-making practices and processes. Your participation will facilitate my understanding of the complexities associated with principal decision-making and the organizational conditions that promote and impede a principal's research engagement.

With your permission, I am going to audio-record our sessions for my research and transcription purposes. However, I will assign aliases and pseudonyms to maintain your anonymity and confidentiality.

Do you have any questions before we get started and I begin recording?
[Researcher: introduce the participant, school, and district using aliases and pseudonyms]
1. How many years have you been in your present position?
2. How many years have you been in the field of education?
3. I have reviewed some demographic information about your school, but can you tell me some things I should know to understand your school better

Research Question	Interview Questions: Principals	Interview Questions: Principal Supervisor
RQ1: How do principals and principal appraisers perceive the relationship between research and practice?	IQ1: How important is teacher quality and teacher retention? ***Probes: Why? Tell me more about ___. What makes you say ___?***	IQ1: How important is teacher quality and teacher retention? ***Probes: Tell me more about ___. Why___?***
	IQ2: What, if any, concerns do you have about teacher quality and teacher retention? ***Probes: Why? Tell me more about ___. What makes you say ___? Why do you think ___?***	IQ2: What concerns, if any, do you have about teacher quality and teacher retention? ***Probes: Tell me more about ___. What makes you say ___? Why do you think ___?***
	IQ3: Tell me about some of the leadership decisions you have made that potentially affect teacher quality (i.e. capacity to use research-based practices) and teacher retention. Using this chart paper, can you make a list of these decisions?	IQ3: Tell me about some of the leadership decisions principals in your district make that potentially affect teacher quality (i.e. capacity to use research-based practices) and teacher retention. Using this chart paper, can you make a list of these decisions?

	IQ5: How important is research—on the subject of teacher quality and teacher retention—to you as a campus principal? ***Probes: Why? Tell me more about ____. What makes you say ____? What kinds of research do you have access to? What research do you consult? Where does the research reside? Who shared the research with you?*** IQ6: Studies suggest there is a gap between research recommendations and leadership practices. How true do you believe this assertion is? ***Probes: Why? Tell me more about ___. What makes you say ___?*** IQ7: Provided your experiences, why do you think principals' access to research has not resulted in improved outcomes related to teacher quality and retention? ***Probes: Why? Tell me more about ___. What makes you say ___?*** IQ8: How, if at all, have you experienced the gap between research and practice? ***Probes: Why? Tell me more about ___. What makes you say ___?***	IQ5: Tell me about the kind of research principals in your district have access to—on the subject of teacher quality and teacher retention. ***Probes: Where does the research reside? Who shares [or has shared] the research with principals? How often do principals access this research? Tell me more about ___.*** IQ6: Studies suggest there is a gap between research recommendations and campus leadership practices. How true do you believe this assertion is? ***Probes: Why? Tell me more about ___. What makes you say ___?*** IQ7: According to the T-PESS rubric, it is the responsibility of the campus principal to ensure staff members are aware of research-based practices, and to systematically foster dialogue about research trends and recommendations. Describe the extent to which you believe this practice is occurring in your district. ***Probes: What makes you say that? What conditions prevent this practice from occurring? What conditions would ensure greater research engagement?*** IQ8: Provided your experiences, why do you think principals' access to research has not resulted in improved outcomes related to teacher quality and retention? ***Probes: Why? How have you experienced [or observed] the gap between research and practice? Tell me more about ___. What makes you say ____?*** IQ9: What, if any, opportunities are provided in your district for principals to read, interpret, and discuss research with others in similar positions? ***Probes: Tell me more about ___. What does ___ look like? What happens when ___?***
RQ2: How do principals gather, interpret, and use research to inform decision-	IQ4: Refer to the list you created in response to Question 3. Tell me about the process you used to make or guide this leadership decision [point to a specific decision]. Take me through the process, from start to finish. Can you use this piece of chart paper to illustrate the process for me?	

making and action taking?	***Probes: What motivated or prompted you to ___? Tell me more about ___. Describe ____in greater detail. How, if at all, did research affect or inform your decision making process? How, and from where, did you obtain the research? When, in this process, did ____occur? What did that process look like? What is the process you went through to interpret the research and use the research to inform leadership practices? Can you edit the process map to reflect ____?***	
RQ3: How do principal appraisers understand principals' gathering, interpretation, and use of research to inform decision-making and action taking?		IQ4: Refer to the list you created in response to Question 3. Tell me about the process principals use to make decisions or guide their actions, such as [point to a specific decision]. Take me through the process, from start to finish. Can you use this piece of chart paper to illustrate the process for me? ***Probes: What motivates principals to ___? Tell me more about ___. Describe ____in greater detail. How, if at all, does research affect or inform principals' decision making process? How, and from where, do principals obtain research? When, in this process, does ____occur? What does that process look like? What is the process principals go through to interpret and use the research to inform leadership practices? Can you edit the process map to reflect ____?***
RQ4: What organizational conditions promote and impede research engagement?	IQ9: As you think about using research to inform leadership practices (i.e. decision-making and action taking), what organizational conditions impede, or have impeded, your use of research? ***Probes: Tell me more about ____. Where in this process [point to process map created in response to Question 4], did you experience those impediments?*** IQ10: What organizational conditions, if any, would help facilitate your use of research? ***Prompts: What would ____look like? Why would ____ be important to you? Where in this process [point to process map created in Question 4], should ____ be provided? Tell me more about ____.*** IQ11: What, if anything, could your supervisor do to encourage your use of research? ***Prompts: What would ____look like? Why would ____ be important to you? Where in this***	IQ10: What organizational conditions impede, or have impeded, principals' ability to use the research? ***Probes: Tell me more about ___. Have the organization's norms, processes, or rules impeded research use in any way?*** IQ11: As a principal supervisor, what would compel/motivate you [or what has compelled/motivated you] to share research with the principals you supervise? ***Probe: Describe ____. Tell me more about ____.*** 1Q12: Do you have any thoughts about how the organization could be structured to increase principals' motivation to access research and principals' capacity to use research to inform leadership practices (i.e. decision-making and action taking)? ***Probes: Tell me more about ___. What makes you say that?***

	process [point to process map created in Question #], should ____ be provided? Tell me more about ____.	
RQ1, RQ2, RQ3, RQ4	IQ12: As you reflect on the relationship between research and practice in education, is there anything else you would like to share? Is there anything I did not ask you that might be important to this study?	IQ13: As you reflect on the relationship between research and practice in education, is there anything else you would like to share? Is there anything I did not ask you that might be important to this study?

Appendix B: Phone or Email Script

Hello,

My name is Reneé Treat and I am a doctoral student at Abilene Christian University. I am conducting a case study on the organizational conditions that facilitate and impede research use. I am asking if you would consider participating in this study and volunteer your perceptions. The purpose of this study is to assess the views and experiences of central actors (i.e. campus principals and principal appraisers) responsible for implementing research interventions at the campus level. Specifically, this study will explore how principals perceive the relationship between research and practice, obtain a clearer understanding of the process through which principals gather, interpret, and use research to inform leadership practices, and identify the organizational conditions that impede and promote research engagement.

Six participants—three principals, and three principal appraisers—will be chosen to participate in this case study. I am interested in exploring the perceptions of principals and appraisers in rural, central-suburban, and major suburban districts.

Principal Appraisers selected for this study will be asked to participate in one, semi structured interview, which will last approximately one hour. Campus Principals selected for this study will be asked to participate in one semi structured interview, which will last approximately one hour, and one observation. During the observation, the researcher will observe a decision-making activity related to teacher development or teacher retention. The researcher will serve as a careful observer. Interviews and observations will take place in the participant's natural work environment.

There are no known risks or discomforts for participants who are offering their individual perceptions for this research. Participation is voluntary and you are free to decide not to participate in this study or to withdraw at any time.

Participants may ask questions concerning this research and have those questions answered before agreeing to participate or throughout the study. You may contact me at any time at xxxxxxxxxxxxxx or (xxx) xxx-xxxx.

You will be provided an informed consent form which must be signed prior to participation in this study. The informed consent form will outline the purpose of the study, your rights as a participant, and your right to withdraw from the study at any time.

Do you have any questions that I can answer at this time?
Are you interested in participating in this study?

Appendix C: Observation Protocol Part 1

Decision-Making Process Map (to be completed by the observer during the observation):

Appendix D: Observation Protocol Part 2

Descriptive Notes	**Reflective Notes**

Appendix E: Qualitative Interview Transcript Coding Manual

	Code	Description	Sub-themes
1	Beliefs	Expressed attitudes such as those related to the importance of teacher retention, teacher quality, and research use	Very important Contingent upon hiring practices Second to leadership Value but do not engage in it
2	Concerns	Matter of interest or anxiety such as those related to teacher retention, teacher quality, and research use	Role promotion Recruit and retain Teacher attitude and fit Measurement and assessment Difficult to define Industry complacency Salary Lack of mentorship Increased responsibility Lack of training and readiness
3	Research use (process)	The degree to which research is used to inform decision-making	Undergirds Informs a specific action Not used
4	Research use (perceptions)	The degree to which research use is perceived as being important to leaders	Important Somewhat important
5	Impediments or barriers	Factors or structures which impede a leader's ability to access and use research to inform decision-making and action taking	Urgency Time Lack of exposure or access Lack of training Lack of motivation or prioritization Tension between systems Lack of peer network Central office Permission Resources
6	Facilitators	Factors or structures which facilitate a leader's ability to access and use research to inform decision-making and action taking	Routinization Leadership Social networks or media Communication Time and expectations Resources Modeling or coaching Shared leadership Simplicity Codified (how-to) Use of story Shared by others

	Code	Description	Sub-codes
7	Organizational conditions	Structures, processes, or factors that influence leaders' behaviors and decision-making	Leadership Time Meeting structures Expectations Promotion standards Social networks
8	Perceptions of the research practice gap	Participants' interpretation, understanding, and acknowledgement of the research practice gap	True Somewhat true Decreasing Lack of perceived relevancy Lack of decision-making skills Misaligned promotion processes
9	Access	How research is obtained, examined, or retrieved	Peer Conference Self-initiated District-initiated Stumble into Social media Advanced coursework
10	Leadership decisions	The complex, simple, or strategic choices a leader makes such as those related to teacher retention and teacher quality	Professional development Hiring and placement Coaching Observation and feedback Support and mentoring Measurement and evaluation Teambuilding Relationship building Communication Staff involvement in decisions Programming Culture Learning networks Allocation of resources
11	Decision-making process	The steps taken to reach a conclusion or take action	Cue Response Decision-making Action taking Research use

Appendix F: IRB Approval

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

June 1, 2019

Renee Treat

Department of Organizational Leadership

Abilene Christian University

Dear Renee,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Organizational Conditions that Promote and Impede Research Engagement: The Principal's Perspective",

was approved by expedited review (Category 7) on 6/1/2019 (IRB # 19-063). Upon completion of this study, please submit the Inactivation Request Form within 30 days of study completion.

If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Study Amendment Request Form.

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Unanticipated Events/Noncompliance Form.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs